ORDER NO. VRD9004M118

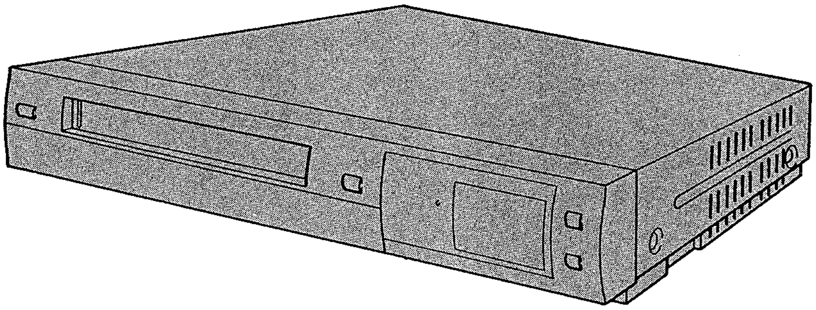
Service Manual

Video Cassette Recorder

National/Panasonic VHS HQ PAL

NV-J30BI
NV-J4BA

General Description
Adjustment Procedures
Block/Schematic Diagrams
Exploded Views/Parts List



SPECIFICATIONS

ITEM	SPECIFICATION	
POWER	SOURCE: 220~240V 50/60Hz	
	CONSUMPTION: 22W	
RECORDING SYSTEM	2 rotary heads, helical scanning system	
	PAL	
TV TUNER SYSTEM	NV-J30BI	VHF I : CHA~CHC VHF III: CHD~CHJ (PAL I) 75Ω unbalanced UHF: CH21~CH69 (PAL I) 75Ω unbalanced
	NV-J4BA	VHF III: CH4~CH13 (PAL I) UHF: CH21~CH68 (PAL I) 75Ω unbalanced
RF OUT SYSTEM	UHF: CH36±4 (PAL I) 73±3dBμ, 75Ω terminated	
VIDEO	HEADS: 3 rotary heads 1 pair for recording, playback (L-R heads) 1 pc. for trick play (L′ head)	
	INPUT: EURO AV Connector (21 pin) 1.0Vp-p, 75Ω terminated (NV-J30BI) VIDEO IN Connector (Phono type) 1.0Vp-p, 75Ω terminated (NV-J4BA)	
	OUTPUT: EURO AV Connector (21 pin) 1.0Vp-p, 75Ω terminated (NV-J30BI) VIDEO OUT Connector (Phono type) 1.0Vp-p, 75Ω terminated (NV-J4BA)	

ITEM	SPECIFICATION
AUDIO	HEAD: 1 Stationary head (Normal Audio)
	INPUT: EURO AV Connector (21 pin) More than −10dBV (316mV), more than 10kΩ (NV-J30BI) AUDIO IN Connector (Phono type) More than −10dBV (316mV), more than 10kΩ (NV-J4BA)
	OUTPUT: EURO AV Connector (21 pin) −6dBV (500mV), Less than 1kΩ (NV-J30BI) AUDIO OUT Connector (Phono type) −6dBV (500mV), Less than 1kΩ (NV-J4BA)
TAPE FORMAT	VHS Cassette tape (Tape width 12.7mm)
TAPE SPEED	23.39mm/s Record/Playback Time: 4 hours with 240min. type tape FF/REW Time: 5.5min. with 180min. type tape
DIMENSIONS	380(W)×82(H)×345.5(D)mm
WEIGHT	4.8kg
STANDARD ACCESSORIES	1 pc. DIN-RF Cable 1 pc. Infra-red remote controller (Build in Digital Scanner type) 1 pc. Programme sheet 1 pc. AC Mains Lead

Weight and dimensions shown are approximate.
Specifications are subject to change without notice.

National/Panasonic

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Central P.O. Box 288, Osaka 530-91, Japan

INTRODUCTION

This service manual contains technical information which will allow service personnels to understand and service this model.
Section 1 presents you with some general information of features and controls, enabling you to become familiar with each function.
Section 2 contributes to your mechanical and electrical adjustment as well disassembly and replacement procedures.
In the case of very common information relating to other models like mechanical adjustments, please refer to each service manual.
Section 3 contains block diagrams which offers you information for checking and understanding each circuit. Schematic diagrams which give you detailed information such as waveforms, voltage data, function e.t.c...
Section 4 contains exploded views and parts list.
Please place orders using the parts list and not the drawing reference numbers.
If the circuit is changed or modified, this information will be followed by supplementary service manual to be filed with original service manual.

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SERVICE INFORMATION

1-1. HOW TO CHECK THE CRACKED CHIP PART

(1) Apply heat to the soldered portions of chip part using a soldering iron for about 2–3 seconds.
(2) If the chip part is faulty, it will be broken or cracked.

Caution: Do not leave soldering iron on the PCB too long as damage may occur to the PCB or the chip parts.

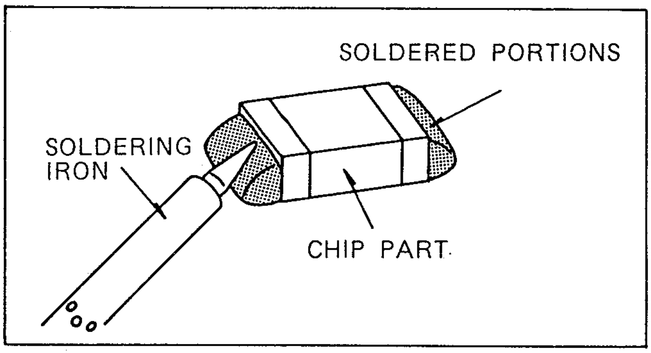

SOLDERED PORTIONS
SOLDERING IRON
CHIP PART

FIG. G1

Note: Regarding intermittent faults
The main causes of these faults are poor soldering and cracked chip parts.

1-2. HOW TO REPLACE THE CHIP PART

1) REMOVAL (RESISTOR, CAPACITOR, etc...)

(1) Presolder the one side of soldering portion for chip part and grasp the chip part by tweezers.

(2) Melt the presoldered portion. And then remove the chip part with a twisting motion while melting the soldering portion of another side quickly.

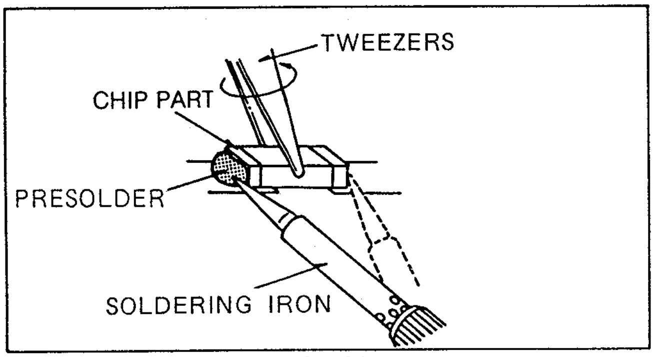

TWEEZERS
CHIP PART
PRESOLDER
SOLDERING IRON

FIG. G2

2) REMOVAL (transistor, diode, etc...)

(1) Grasp the chip part with tweezers and melt the solder of one lead.

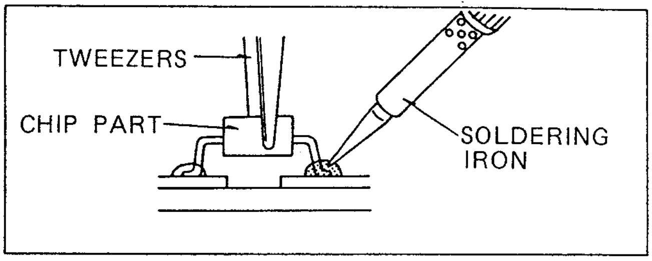

TWEEZERS
CHIP PART
SOLDERING IRON

FIG. G3

(2) Lift the side of that lead upward.

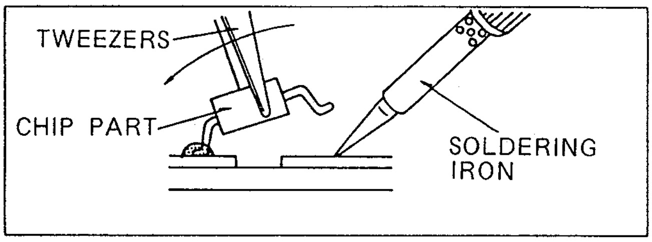

TWEEZERS
CHIP PART
SOLDERING IRON

FIG. G4

Caution: Do not lift the chip part too high as damage may occur to the PCB or the leads that are still soldered on the PCB.

(3) Simultaneously heat the solder of the two remaining leads and lift part to remove.

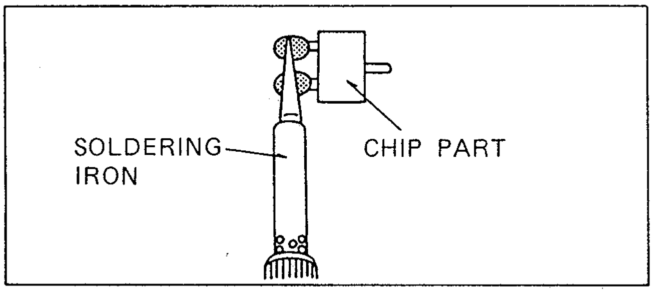

SOLDERING IRON
CHIP PART

FIG. G5

3) INSTALLATION

(1) Presolder the one side of contact point on the circuit board.

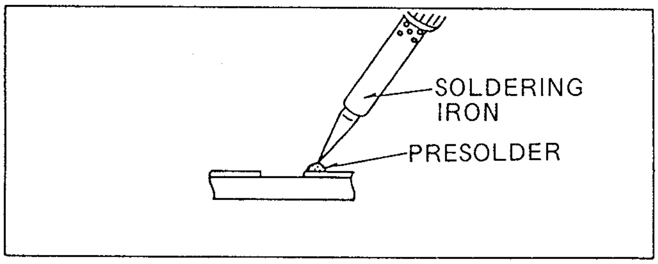

SOLDERING IRON
PRESOLDER

FIG. G6

(2) To install the chip part,hold in position using tweezers, apply heat to the pre-soldered portions using a fine tip soldering iron.
(3) Solder the other side of the chip part.
(4) Check your soldering.

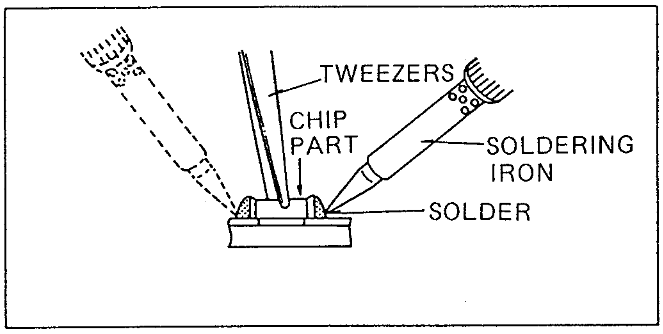

TWEEZERS
CHIP PART
SOLDERING IRON
SOLDER

FIG. G7

1-3. HOW TO REMOVE THE FLAT-IC

(WITH HOT-AIR FLAT-IC DESOLDERING MACHINE)

(FOR EXAMPLE)

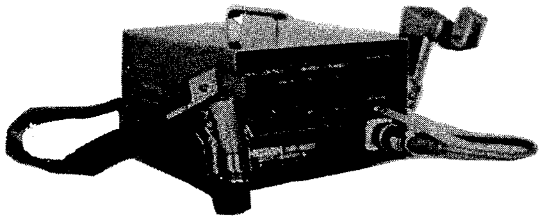


FIG. G8

(1) Prepare the HOT-AIR FLAT-IC DESOLDERING MACHINE. And then apply hot air to FLAT-IC about 5 ~ 8 seconds.

(2) Remove the FLAT-IC with tweezers while applying the hot air.

Caution: Do not supply the hot air to the chip parts around the Flat-IC for long time as as damage may occur to the chip parts around the Flat -IC.

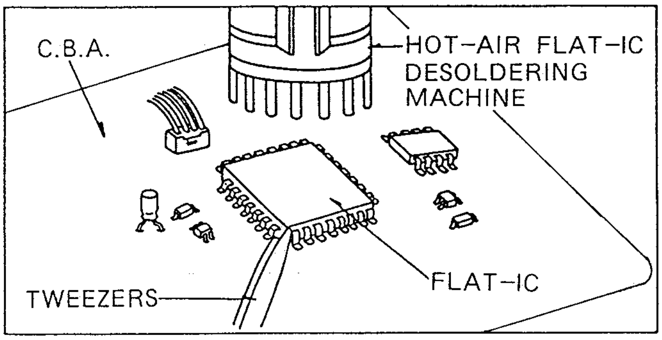

C.B.A.
HOT-AIR FLAT-IC DESOLDERING MACHINE
TWEEZERS
FLAT-IC

FIG. G9

(WITH SOLDERING IRON)

(1) Using solder braid remove the solder from all pins of the Flat-IC.
When you use the solder flux which is applied to all pins of the Flat-IC,you can remove it easily.

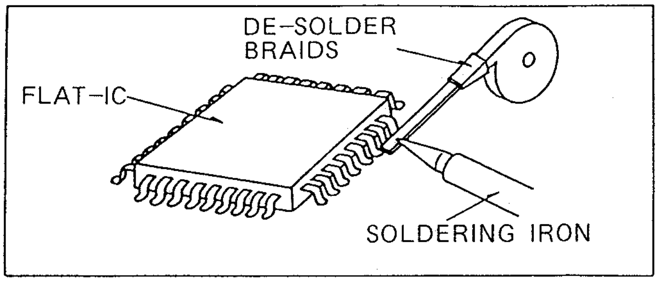

DE-SOLDER BRAIDS
FLAT-IC
SOLDERING IRON

FIG. G10

(2) Lift each lead of the Flat-IC upward one by one using a sharp pin or non solder wire(iron wire),while heating the pins using a fine tip soldering iron or a hot air blower.

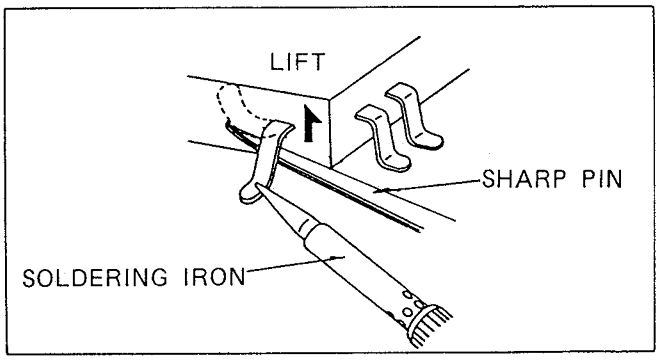

LIFT
SHARP PIN
SOLDERING IRON

FIG. G11

(WITH IRON WIRE)

(1) Affix the wire to workbench or solid mounting point as shown in FIG.G12.
(2) Pull up wire as the solder melts so as to lift the IC lead from the PCB contact pad,while heating the pins using a fine tip soldering iron or hot air blower.

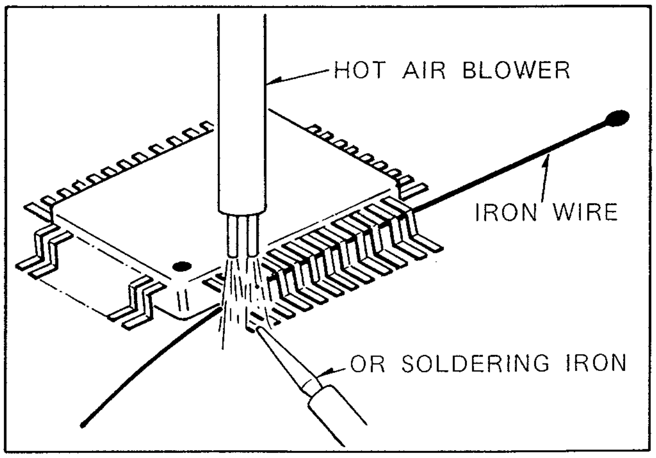

HOT AIR BLOWER
IRON WIRE
OR SOLDERING IRON

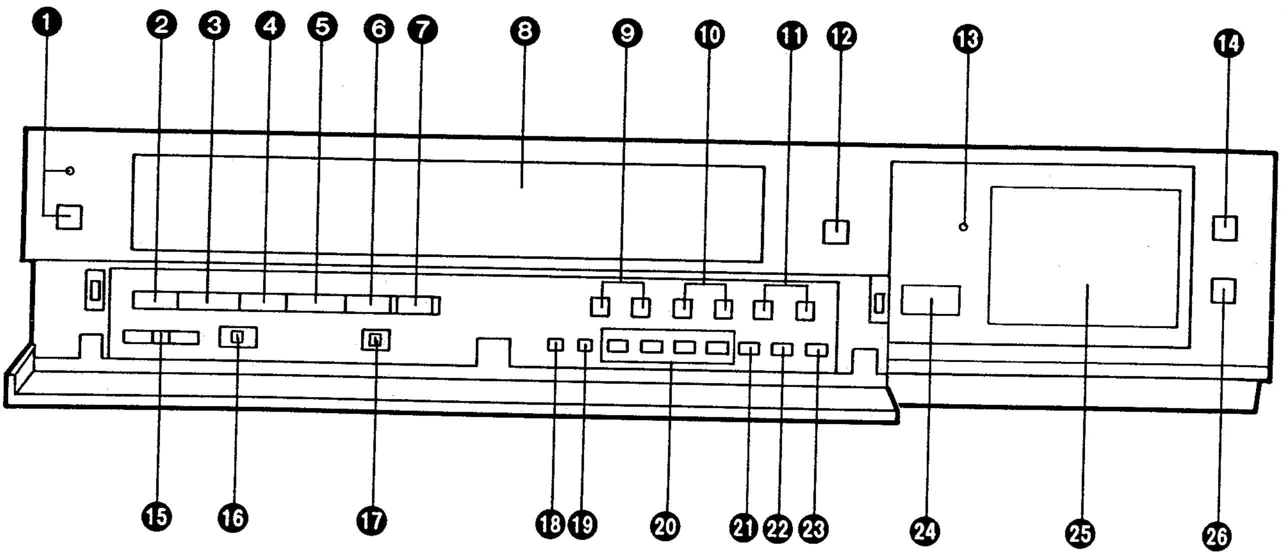
FIG.G12

Note: When using a soldering iron care must be taken to ensure that the Flat IC is not being held by glue before it is the PCB may be damaged if force is used.

SECTION 1
GENERAL DESCRIPTIONS

1-1. CONTROLS AND COMPONENTS

FRONT



① VTR On/Off Switch with Indicator

② Rewind ◀◀/Review ⏪ Button

③ Play/×2 Button (▶)

④ Fast Forward ▶▶/Cue ⏩ Button

⑤ Stop Button (■)

⑥ Pause/Still Button (❚❚)

⑦ Record Button (●)

⑧ Cassette Comptartment

⑨ Channel Selection Up and Down Buttons

⑩ OTR On Buttons

⑪ OTR Off Buttons

⑫ Eject Button (⏏)

⑬ Digital Tracking Indicator

⑭ Clock/Counter Selector

⑮ Picture Sharpness Control

⑯ Noise Filter/Edit Selector

EDIT ON: For editing operations such as dubbing.
OFF: For ordinary use of the VTR.
NOISE FILTER ON: For playback of tapes with inferior picture quality caused, for example, by repeated dubbing.

- When the Noise Filter/Edit Selector is set to "EDIT ON", the picture sharpness cannot be adjusted with the Picture Sharpness Control.

⑰ Digital Tracking On/Off Switch

Digital Tracking
ON: Select this position for digital tracking.

When playback is started after inserting a cassette, and the VTR is turned on, the Digital Tracking function will be activated automatically, the Digital Tracking Indicator will flash for several seconds, and the tracking will be adjusted automatically (after the adjustment, the Digital Tracking Indicator will remain lit).

- During playback, the Digital Tracking function will be activated whenever the playback changes over from an unrecorded part to a recorded part, provided the recorded part is longer than 4 seconds.

- When the picture is distorted by noise bars, press the Tracking (+) or (−) Button to select manual tracking and adjust with these two buttons. The Digital Tracking Indicator goes out.
  To change back to Digital Tracking, press the Tracking (+) and (−) Buttons simultaneously.

Manual Tracking
OFF: Select this position for manual tracking.

- When the playback picture is distorted by noise bars, adjust by pressing the Tracking (+) or (−) Button.
- To return the tracking control to the former setting, press the Tracking (+) and (−) Button simultaneously.

⓲ Clock Button

⓳ Preset/Fine/Normal Button

⓴ Timer Controls

㉑ Band/AFC Button

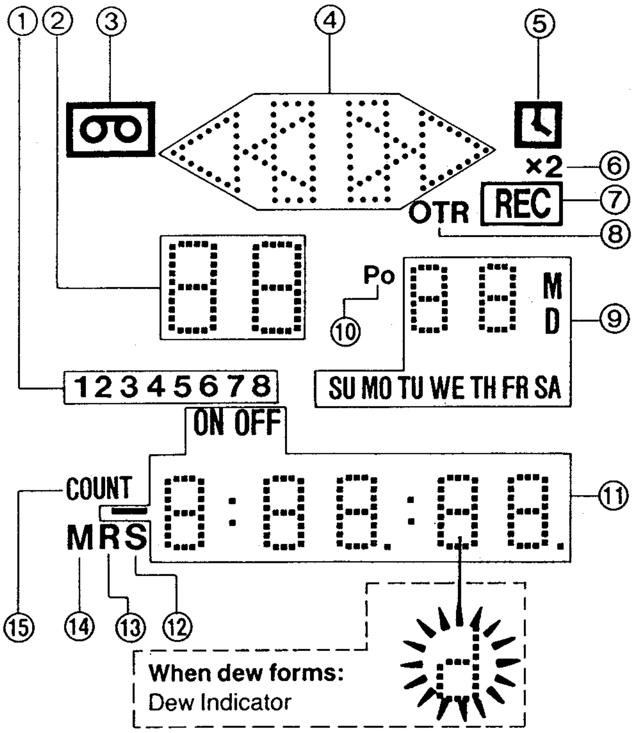
㉒ Clear Button

㉓ Timer Record Button

㉔ Infra-red Remote Control Receiver

㉕ Multi-Function Display

Multi-Function Display


①
②
③
④
⑤
×2
⑥
OTR
REC
⑦
⑧
Po
⑩
M
D
⑨
12345678
SU MO TU WE TH FR SA
ON OFF
COUNT
MRS
⑪
⑮
⑭
⑬
⑫
When dew forms:
Dew Indicator

(NV-J4BA)

① Timer Programme Number

② Channel Display

③ Cassette-in Indicator

④ Tape Running Display

⑤ Timer Recording Indicator

⑥ Double Speed Indicator

⑦ Recording Indicator

⑧ OTR Indicator

⑨ Date Display

⑩ Position Indicator

⑪ Tape Counter Indicator

⑫ Search Indicator

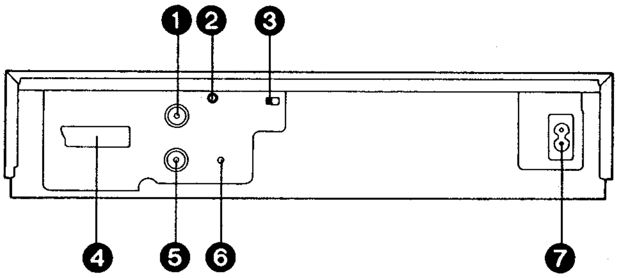
⑬ Repeat Indicator

⑭ Memory Indicator

⑮ Counter Mode Indicator

㉖ Reset Button

REAR (NV-J30BI)

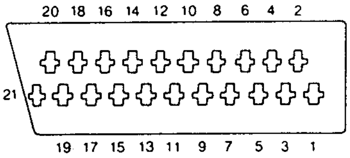


❶ RF Output Socket

❷ Vertical Lock Controls

❸ Test Signal Switch

❹ AV Socket


20 18 16 14 12 10 8 6 4 2
21
19 17 15 13 11 9 7 5 3 1

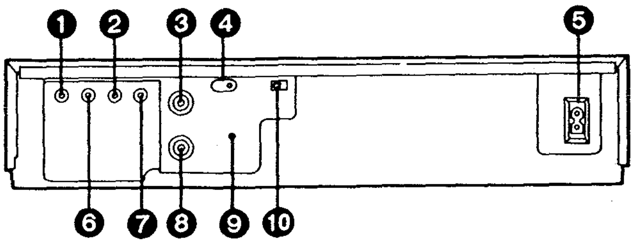
1	AUDIO OUTPUT	11	No connection
2	AUDIO INPUT	12	No connection
3	AUDIO OUTPUT	13	No connection
4	AUDIO GND	14	No connection
5	No connection	15	No connection
6	AUDIO INPUT	16	No connection
7	No connection	17	VIDEO GND
8	SWITCHING VOLTAGE	18	No connection
9	No connection	19	VIDEO OUTPUT
10	No connection	20	VIDEO INPUT
		21	GND

❺ RF Input Socket

❻ Video Playback Channel Selector

❼ AC Mains Lead Socket

REAR (NV-J4BA)



❶ Audio Input Socket

❷ Audio Output Socket

❸ RF Output Socket

❹ Vertical Lock Controls

❺ AC Mains Lead Socket

❻ Video Input Socket

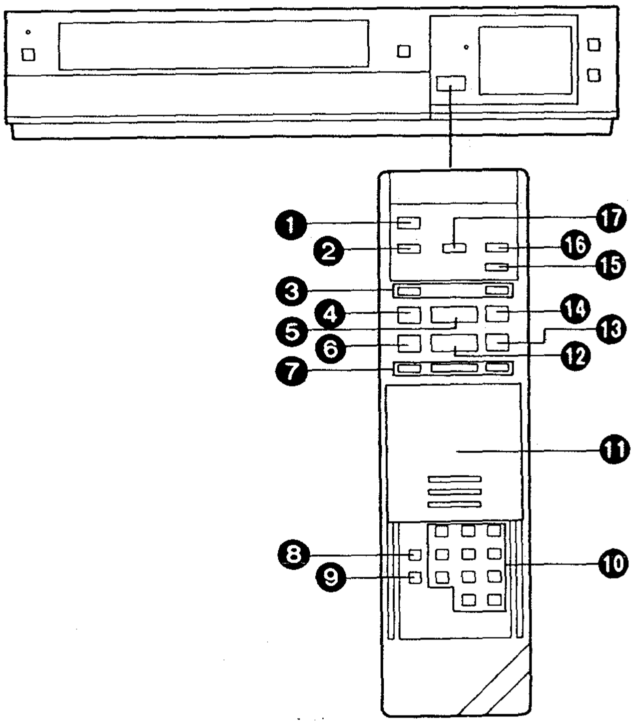
❼ Video Output Socket

❽ RF Input Socket

❾ Video Playback Channel Selector

❿ Test Signal Switch

1-2. INFRA-RED REMOTE CONTROLLER



❶ **VTR On/Off Button**

❷ **Clock Counter Selector**

❸ **Record Buttons (●)**

❹ **Pause/Still Button (❚❚)**

❺ **Stop Button (■)**

❻ **Rewind ◀◀/Review ⊟ Button**

❼ **Slow Buttons**

❽ **Time Search Button**

❾ **Monitor Button**

❿ **Programme Position (Channel) Selector Buttons**

⓫ **Mode Selector Cover**

⓬ **Play/×2 Button (▶)**

⓭ **Fast Forward ▶▶/Cue ⊟ Button**

⓮ **Still Advance Button (❙❙▶)**

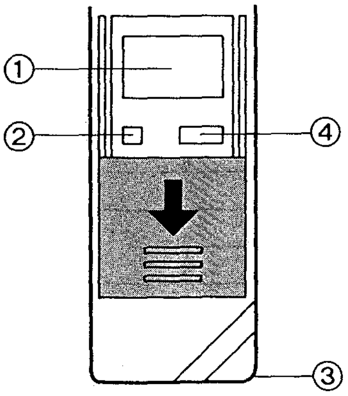
⓯ **Reverse Play Button**

⓰ **Memory/Repeat/Search Button**

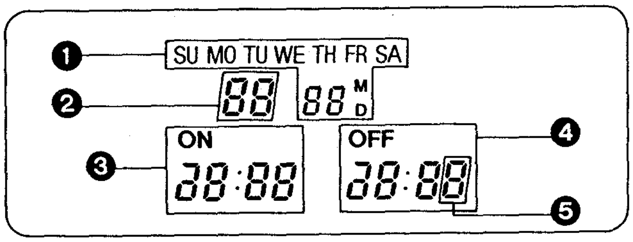
⓱ **Reset Button**

Use as Digital Scanner

Slide the Mode Selector Cover downward.



① **Bar Code Reader Display**



❶ Date Display

❷ Channel Display

❸ Start Time Display

❹ End Time Display

❺ Check Indicator

② **Digital Scanner On/Off Button**

③ **Bar Code Reading Section**

④ **Transmit Button**

Note:
To be able to use the unit as Remote Controller, press the Digital Scanner On/Off Button (the indications in the LCD Display will disappear).

SECTION 2
ADJUSTMENT PROCEDURES

2-1. DISASSEMBLY METHOD

2-1-1. DISASSEMBLY FLOW CHART

This flowchart indicates disassembly steps of the cabinet parts and circuit boards in order to find the necessary items for servicing.
When reassembling, perform the steps in the reverse order.

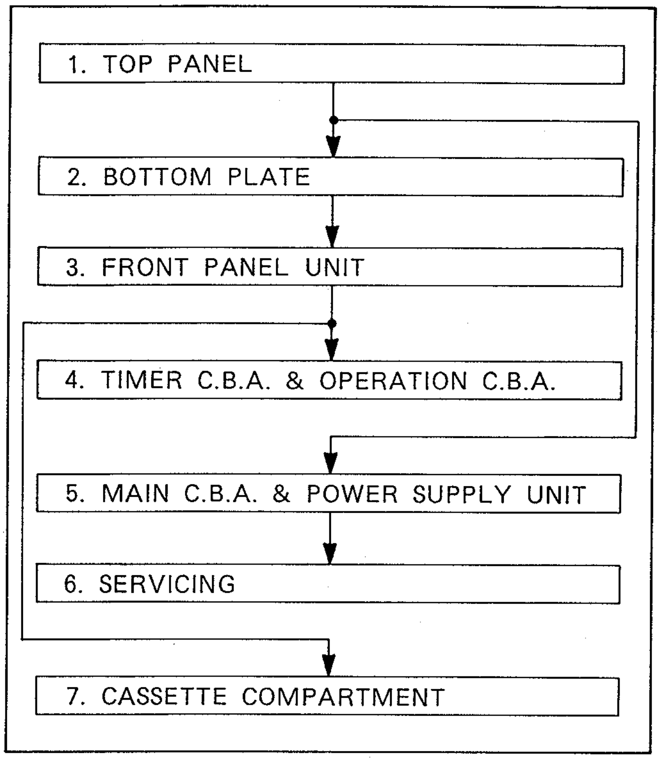

1. TOP PANEL
2. BOTTOM PLATE
3. FRONT PANEL UNIT
4. TIMER C.B.A. & OPERATION C.B.A.
5. MAIN C.B.A. & POWER SUPPLY UNIT
6. SERVICING
7. CASSETTE COMPARTMENT

Fig. D1

2-1-2. DETAIL OF DISASSEMBLY METHOD

1. REMOVAL OF THE TOP PANEL UNIT

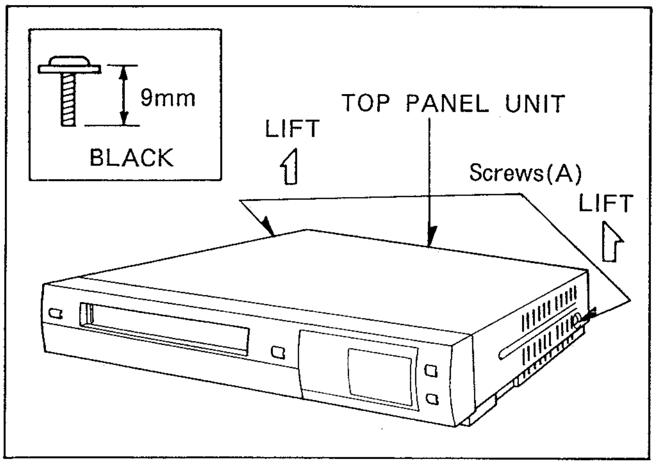

9mm
BLACK
LIFT
TOP PANEL UNIT
Screws(A)
LIFT

Fig. D2

Remove ... 2 Screws (A)

2. REMOVAL OF THE BOTTOM PLATE

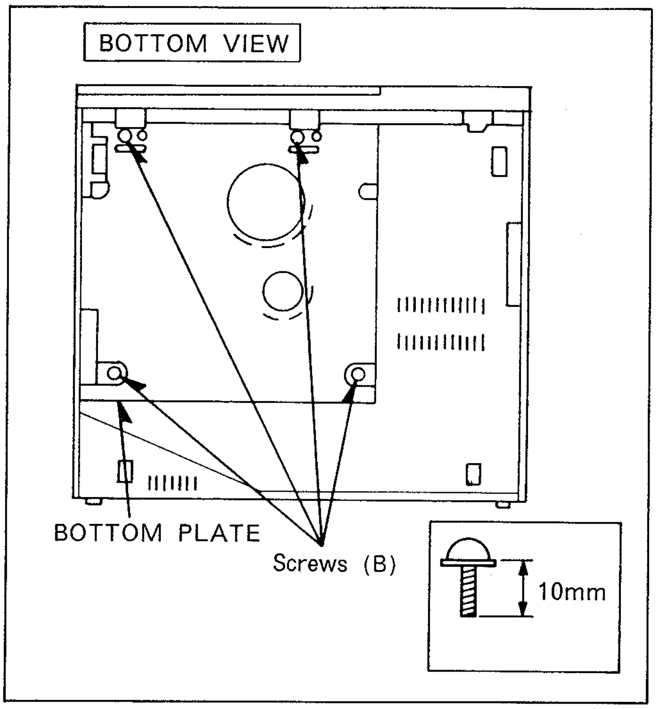

BOTTOM VIEW
BOTTOM PLATE
Screws (B)
10mm

Fig. D3

Remove ... 4 Screws (B)

3. REMOVAL OF THE FRONT PANEL UNIT

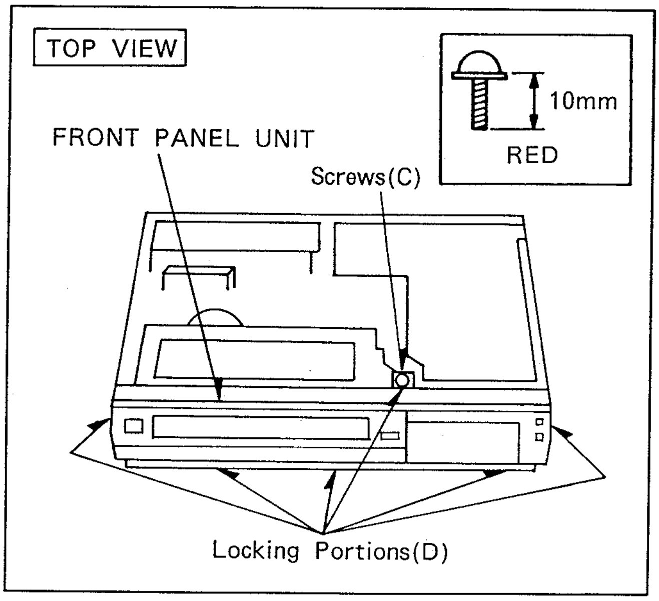

TOP VIEW
10mm
RED
FRONT PANEL UNIT
Screws(C)
Locking Portions(D)

Fig. D4

Remove ... Screw(C)
Unlock ... 6 Locking Portions(D)

4. REMOVAL OF THE TIMER C.B.A. AND OPERATION C.B.A.

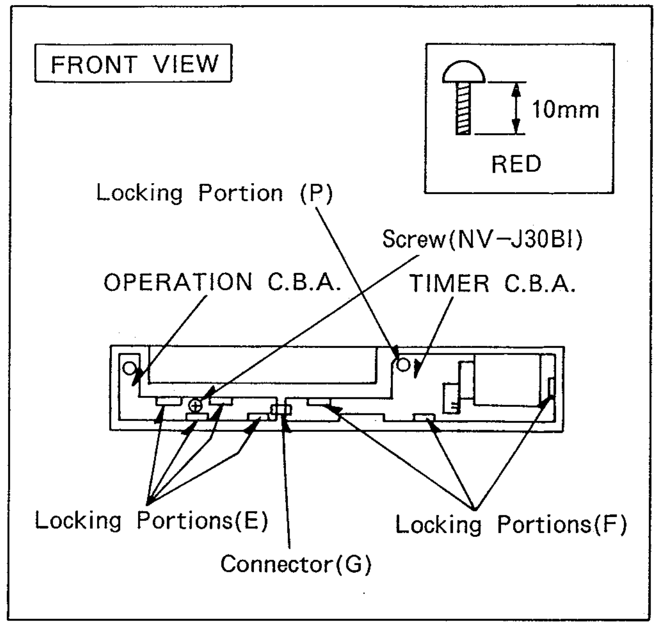

FRONT VIEW
10mm
RED
Locking Portion (P)
Screw(NV−J30BI)
OPERATION C.B.A.
TIMER C.B.A.
Locking Portions(E)
Locking Portions(F)
Connector(G)

Fig. D5

REMOVAL OF THE OPERATION C.B.A.

Unlock ... Locking Portion (P)
Unlock ... 4 Locking Portions(E)
Disconnect ... Connector(G)
Remove...Screw(NV−J30BI)

REMOVAL OF THE TIMER C.B.A.

Unlock ... 3 Locking Portions(F)

Note: HOW TO REMOVE THE CONNECTOR (G).

When removing the connector(G), carefully lift the top portions(H) of connector to remove.

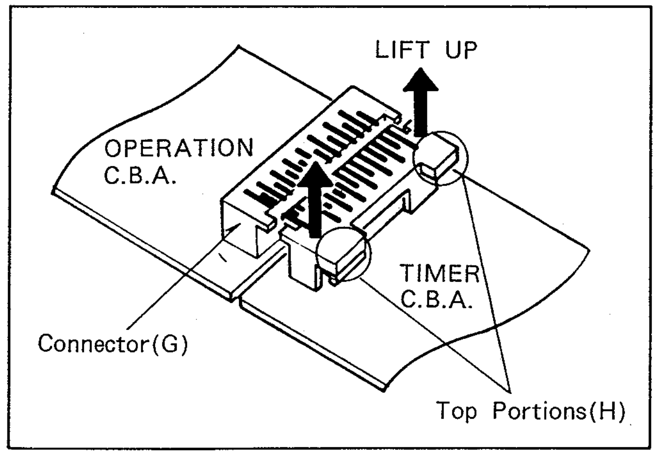

LIFT UP
OPERATION C.B.A.
TIMER C.B.A.
Connector(G)
Top Portions(H)

Fig. D6

NOTE:

If the connector is turned for checking the operatrion C.B.A. and Timer C.B.A., the short circuit could be made between reed wires.
Be sure there is no short circuit between reed wires and check the both Operation & Timer C.B.As.

5. REMOVAL OF THE MAIN C.B.A. AND POWER SUPPLY UNIT

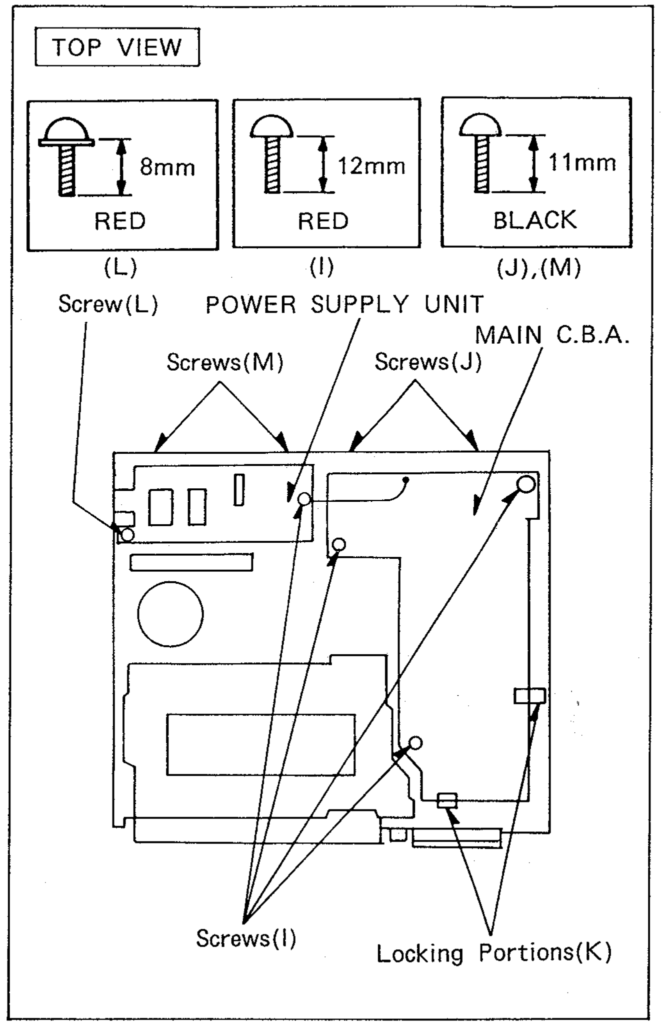

TOP VIEW
8mm
RED
(L)
12mm
RED
(I)
11mm
BLACK
(J),(M)
Screw(L)
POWER SUPPLY UNIT
MAIN C.B.A.
Screws(M)
Screws(J)
Screws(I)
Locking Portions(K)

Fig. D7

REMOVAL OF THE MAIN C.B.A.

Remove ... 4 Screws(I) and 2 Screws(J)
Unlock ... 2 Locking Portions(K)

REMOVAL OF THE POWER SUPPLY UNIT

Remove ... Screw(L) and 2 Screws(M)

6. SEVICING

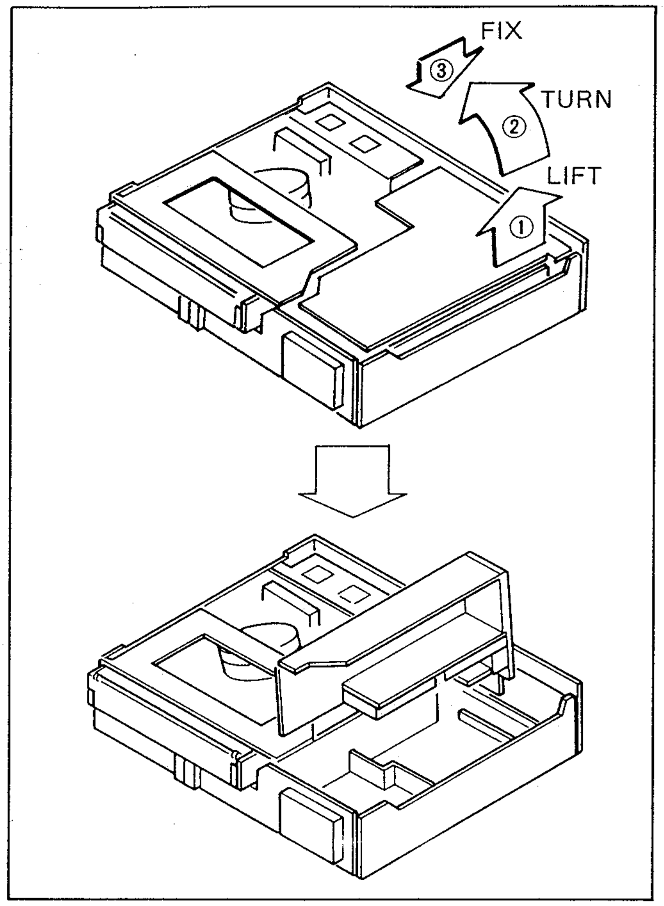

FIX
③
TURN
②
LIFT
①

Fig. D8

7. REMOVAL OF THE CASSETTE COMPARTMENT

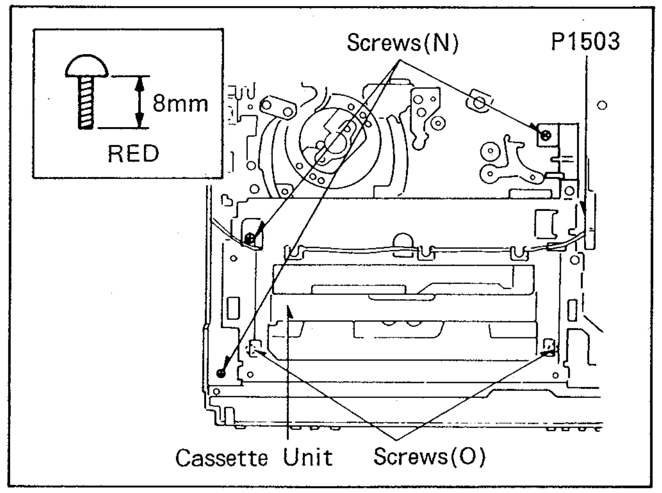

8mm
RED
Screws(N)
P1503
Cassette Unit
Screws(O)

Fig. D9

Remove the 3 screws(N).
Slide the cassette holder until appeari
screws(O) by turning (clockwise) the Capstan
Unit (located in the bottom side as shown i
D10) and remove the 2 screws(O).
Remove the wire cable from connector P1503 m
on Take−up Photo Tr. C.B.A., then carefull
out the Cassette Compartment.

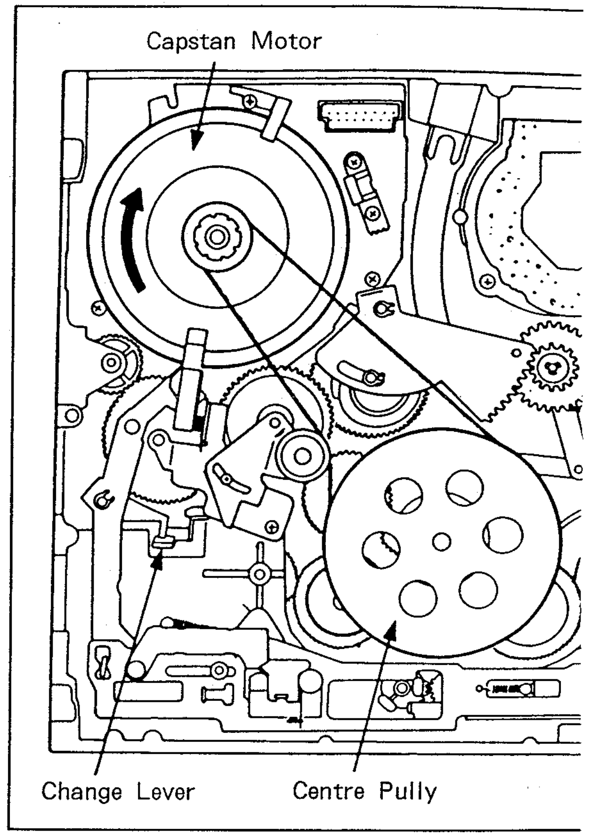

Capstan Motor
Change Lever
Centre Pully

Fig. D10

NOTE:

When restalling the Cassette Compar
mechanical adjustment (alignment) mu
performed for correct working refer to
Manual (G Mechanical Chassis)
No. VRD8701105, item 3−10. mec
adjustment (alignment).

6. SEVICING

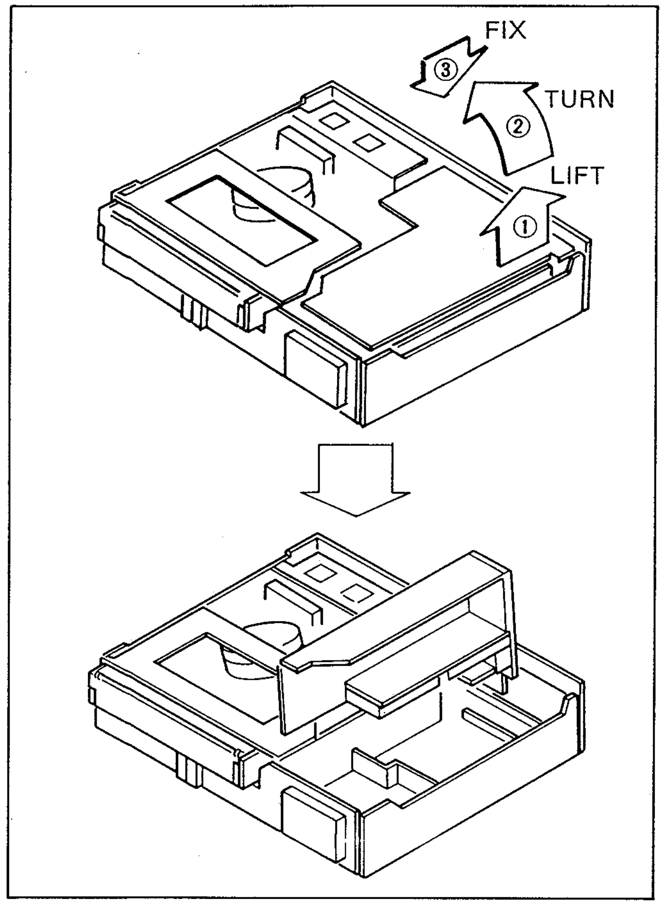

FIX
③
TURN
②
LIFT
①

Fig. D8

7. REMOVAL OF THE CASSETTE COMPARTMENT

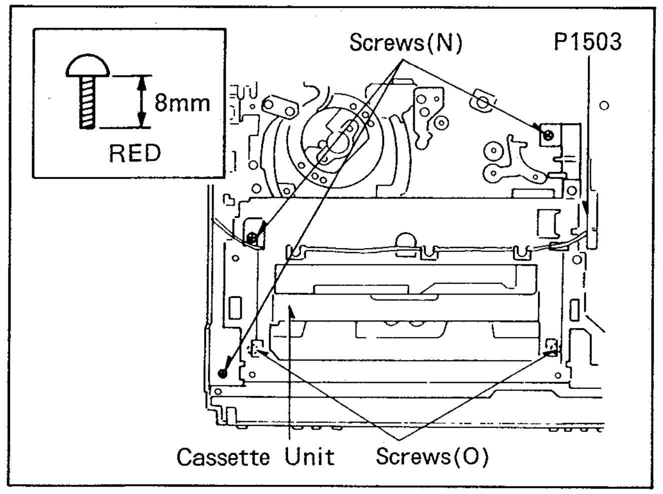

Screws(N)
P1503
8mm
RED
Cassette Unit
Screws(O)

Fig. D9

Remove the 3 screws(N).
Slide the cassette holder until appearing 2 screws(O) by turning (clockwise) the Capstan Rotor Unit (located in the bottom side as shown in Fig. D10) and remove the 2 screws(O).
Remove the wire cable from connector P1503 mounted on Take-up Photo Tr. C.B.A., then carefully pull out the Cassette Compartment.

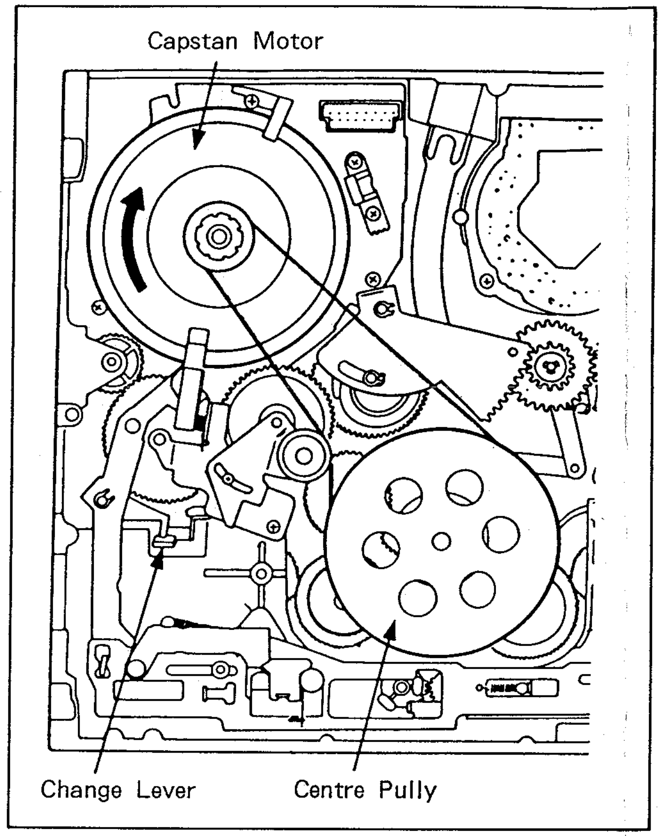

Capstan Motor
Change Lever
Centre Pully

Fig. D10

NOTE:

When restalling the Cassette Compartment, mechanical adjustment (alignment) must be performed for correct working refer to Service Manual (G Mechanical Chassis) (Order No. VRD8701105, item 3-10. mechanical adjustment (alignment).

2-1-3.How to open the Remote Control Unit

1.Removal of the sensor cap.

Turn the sensor cap counterclockwise(90 degrees) and pull the sensor cap to remove as shown in Fig D11.

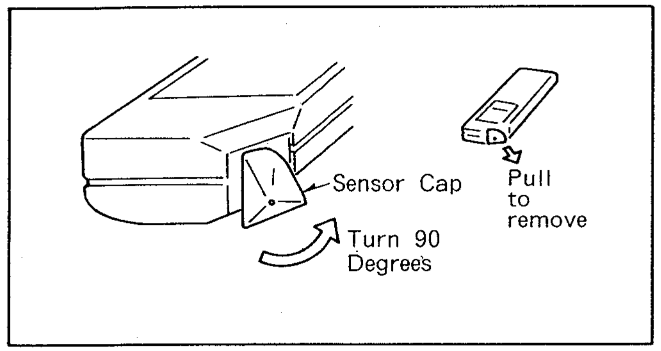

Sensor Cap
Pull
to
remove
Turn 90
Degrees

Fig.D11

2.Removal of the Battery Cover

Press the part of battery cover indicated by the arrow and lift off the cover.
Then take out batteries.

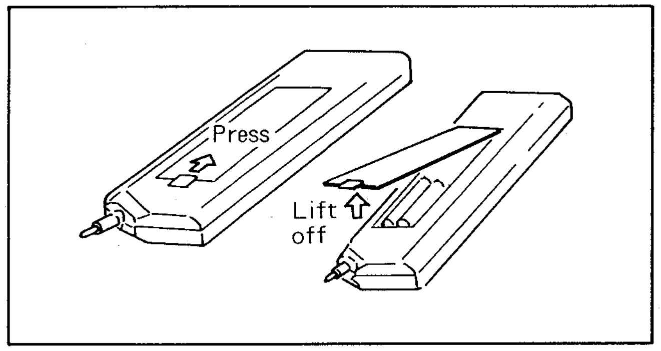

Press
Lift
off

Fig.D12

3.Removal of the bottom case.

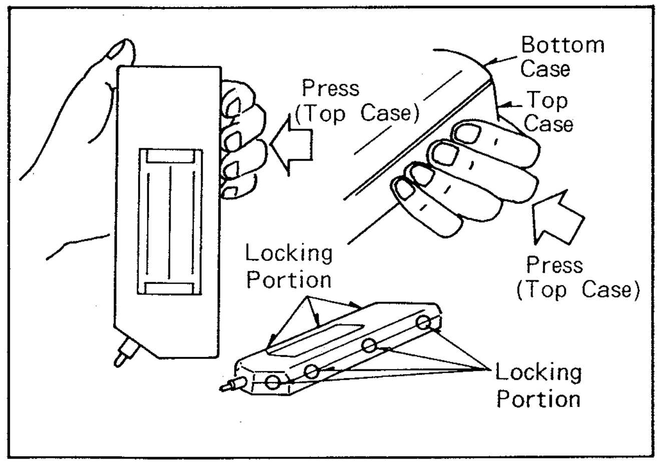

Press
(Top Case)
Bottom
Case
Top
Case
Locking
Portion
Press
(Top Case)
Locking
Portion

Fig.D13

Press the side of Top case with left hand as shown in Fig.D13 by big force so that the top case is bending.
Then insert your finger of right hand to gap between top case and bottom case while keep pressing by your left hand as shown in Fig.D14.

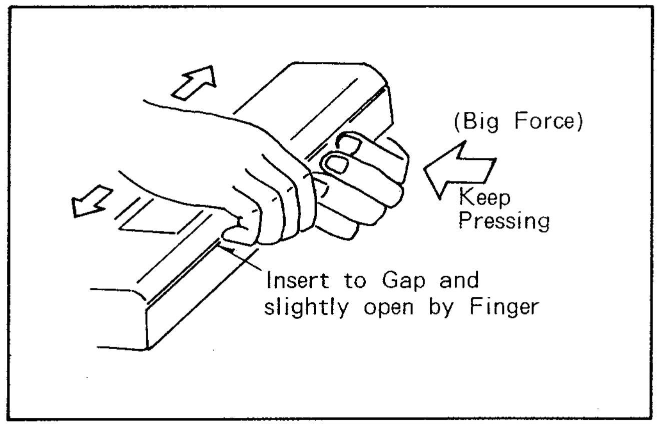

(Big Force)
Keep
Pressing
Insert to Gap and
slightly open by Finger

Fig.D14

First slightly open the bottom case by your inserted right hand and move your right hand to extend the open portion.
When unlock the 3 locking portion(refer to Fig.D13),the bottom case is removed easily.
If you can not open,please try opposite side with same way.

4.Removal of the sensor C.B.A.

Remove 2 screws as shown in Fig.D15.

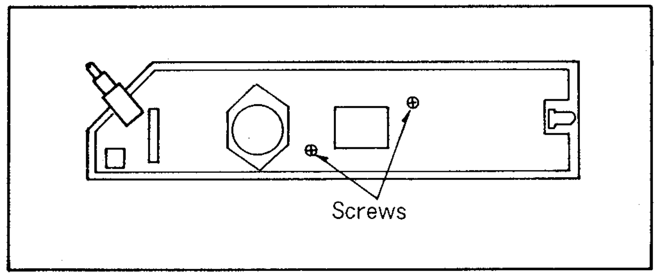
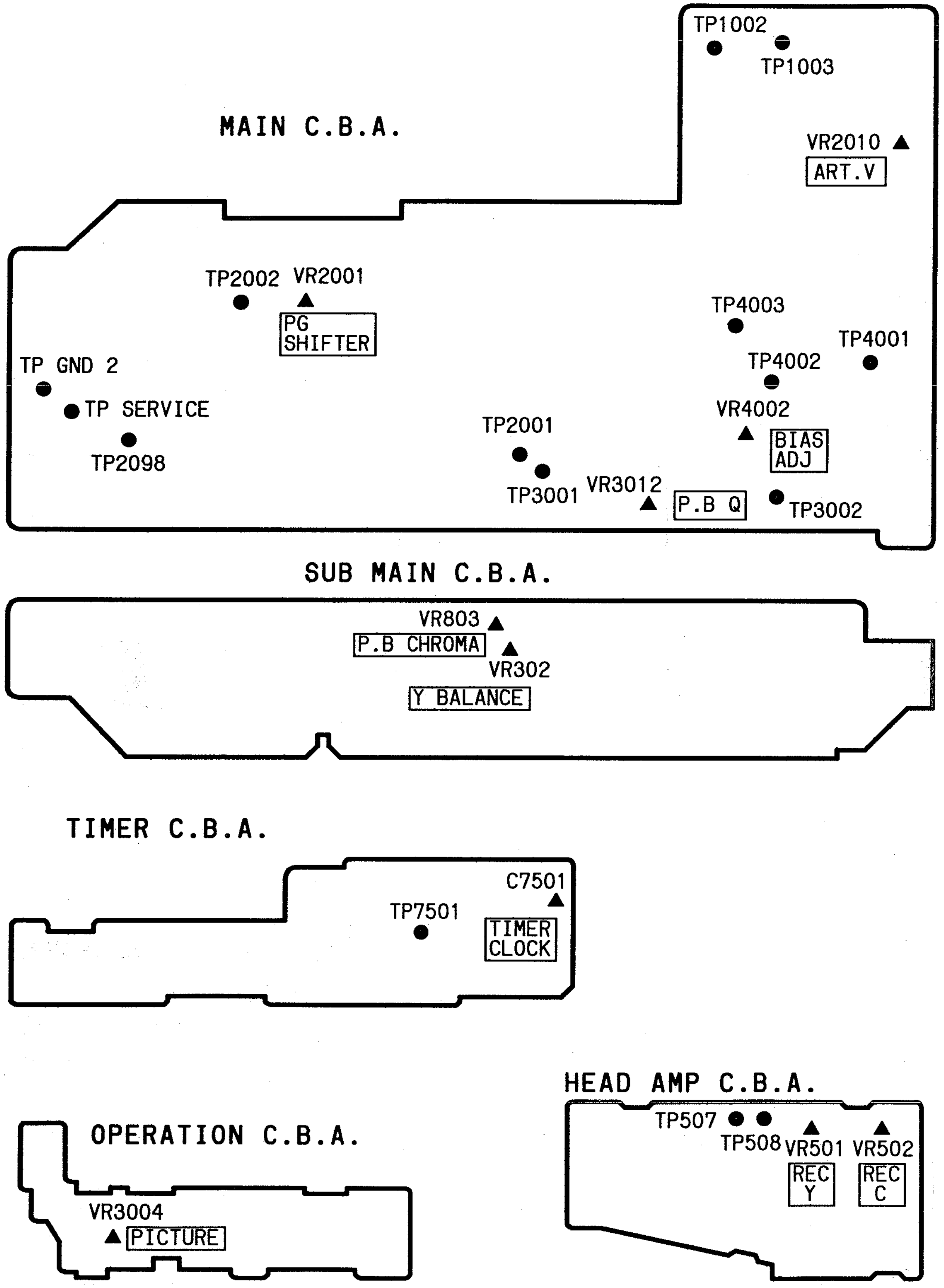


Fig.D15

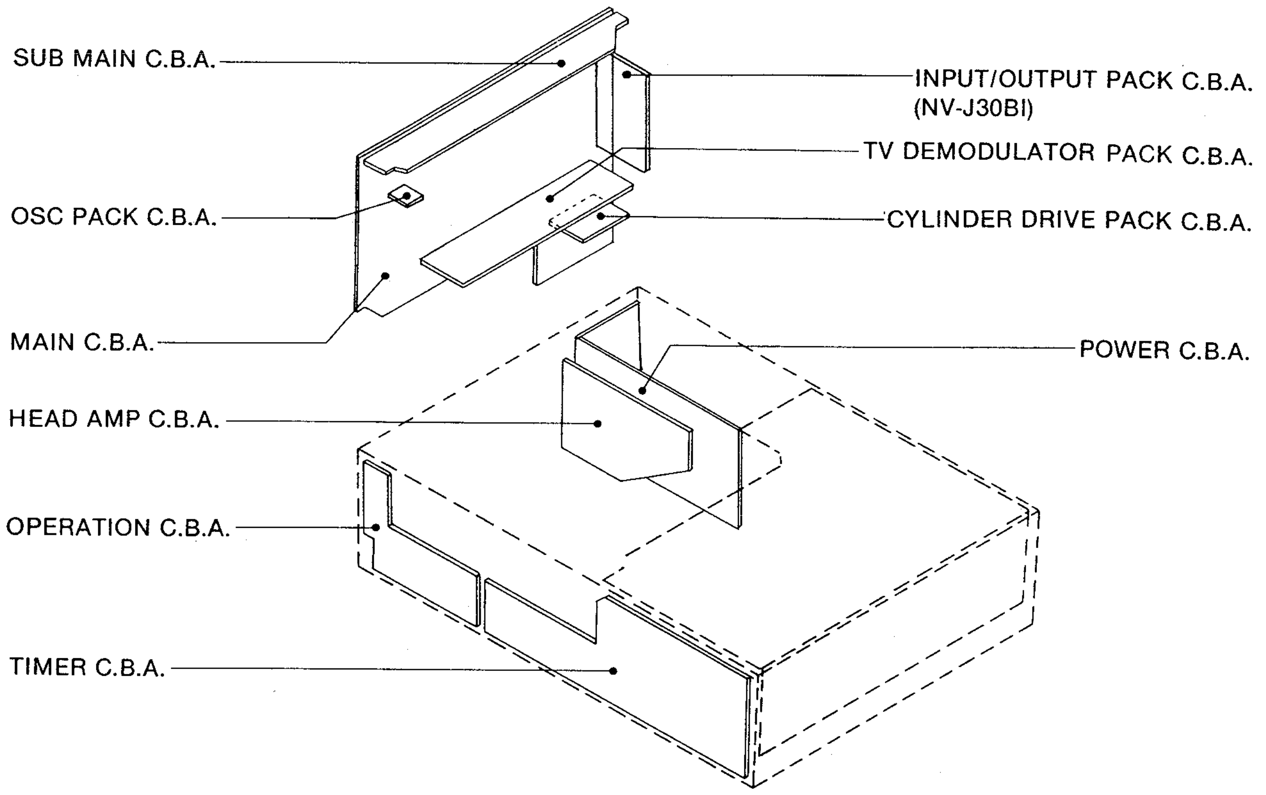
2-2. MECHANICAL ADJUSTMENT PROCEDURES

This mechanical chassis of these models NV-J4BA/NV-J30BI is the same as G-REV Mechanical Chassis. Therefore please refer to the Service Manual G-REV. Mechanical Chassis (Order No. VRD8901M101).

LOCATION OF TEST POINTS & CONTROLS


MAIN C.B.A.
TP1002
TP1003
VR2010
ART.V
TP2002
VR2001
PG SHIFTER
TP GND 2
TP SERVICE
TP2098
TP2001
TP3001
VR3012
P.B Q
TP4003
TP4001
TP4002
VR4002
BIAS ADJ
TP3002
SUB MAIN C.B.A.
VR803
P.B CHROMA
VR302
Y BALANCE
TIMER C.B.A.
TP7501
C7501
TIMER CLOCK
OPERATION C.B.A.
VR3004
PICTURE
HEAD AMP C.B.A.
TP507
TP508
VR501
VR502
REC Y
REC C

CIRCUIT BOARD LAYOUT


SUB MAIN C.B.A.
OSC PACK C.B.A.
MAIN C.B.A.
HEAD AMP C.B.A.
OPERATION C.B.A.
TIMER C.B.A.
INPUT/OUTPUT PACK C.B.A. (NV-J30BI)
TV DEMODULATOR PACK C.B.A.
CYLINDER DRIVE PACK C.B.A.
POWER C.B.A.

2-3. ELECTRICAL ADJUSTMENT PROCEDURES

This section Provides complete electrical adjustment procedures which may be required for electronic circuits of VHS Video Cassette Recorders NV-J4BA/NV-J30BI.

2-3-1. TEST EQUIPMENTS

To perform the electrical adjustments completely, following equipments are required.

1. VTVM (Vacuum Tube Volt Meter) or DVM (Digital Volt Meter)
   Voltage Range: 0.001~50V
2. Dual-Trace Oscilloscope
   Voltage Range: 0.005~50V/div.
   Frequency Range: DC~30MHz
   Probes: 10:1 or 1:1
3. Universal Counter
4. Signal Generator (Sinewave)
   Frequency Range: 0~500KHz
5. Video Sweep Generator
   Frequency Range: 0~10MHz
6. Colour Monitor TV
7. Plastic Tip Driver
8. VHS Alignment Tape (VFJ8125H3F)

2-3-2. HOW TO READ THE ADJUSTMENT PROCEDURES

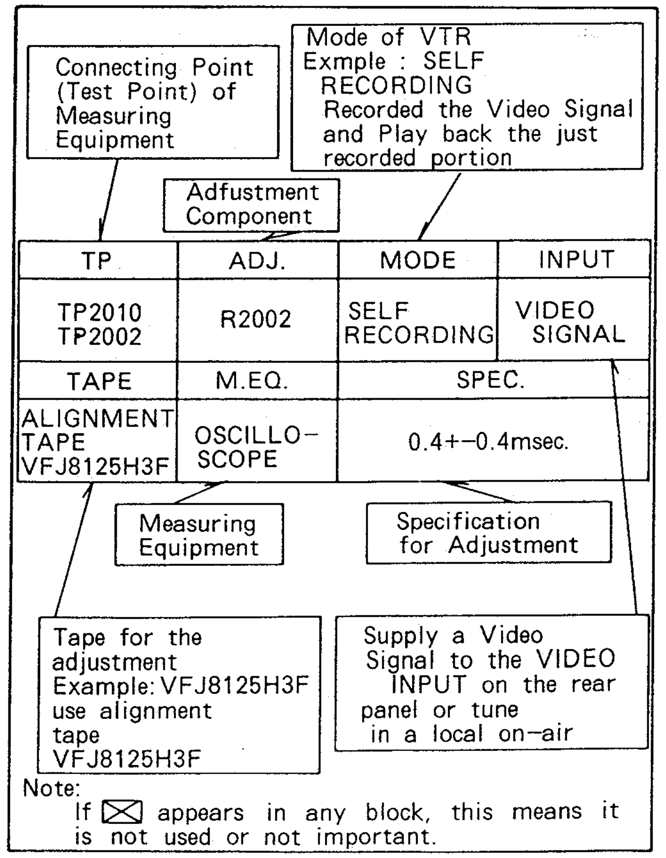
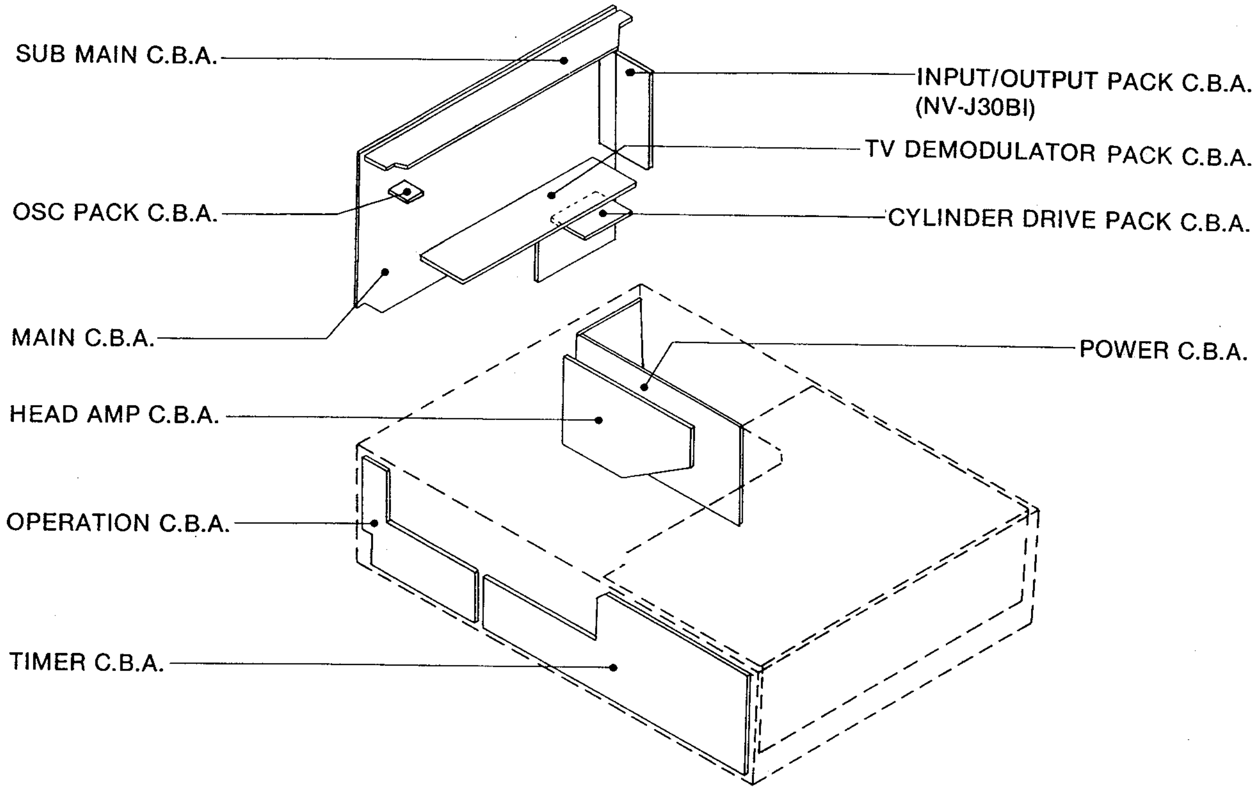

Connecting Point (Test Point) of Measuring Equipment
Mode of VTR Exmple : SELF RECORDING Recorded the Video Signal and Play back the just recorded portion
Adfustment Component
TP
ADJ.
MODE
INPUT
TP2010 TP2002
R2002
SELF RECORDING
VIDEO SIGNAL
TAPE
M.EQ.
SPEC.
ALIGNMENT TAPE VFJ8125H3F
OSCILLO-SCOPE
0.4+-0.4msec.
Measuring Equipment
Specification for Adjustment
Tape for the adjustment Example: VFJ8125H3F use alignment tape VFJ8125H3F
Supply a Video Signal to the VIDEO INPUT on the rear panel or tune in a local on-air
Note:
If ☒ appears in any block, this means it is not used or not important.

Fig. E1

CIRCUIT BOARD LAYOUT


SUB MAIN C.B.A.
INPUT/OUTPUT PACK C.B.A.
(NV-J30BI)
TV DEMODULATOR PACK C.B.A.
OSC PACK C.B.A.
CYLINDER DRIVE PACK C.B.A.
MAIN C.B.A.
POWER C.B.A.
HEAD AMP C.B.A.
OPERATION C.B.A.
TIMER C.B.A.

2-3. ELECTRICAL ADJUSTMENT PROCEDURES

This section Provides complete electrical adjustment procedures which may be required for electronic circuits of VHS Video Cassette Recorders NV−J4BA/NV−J30BI.

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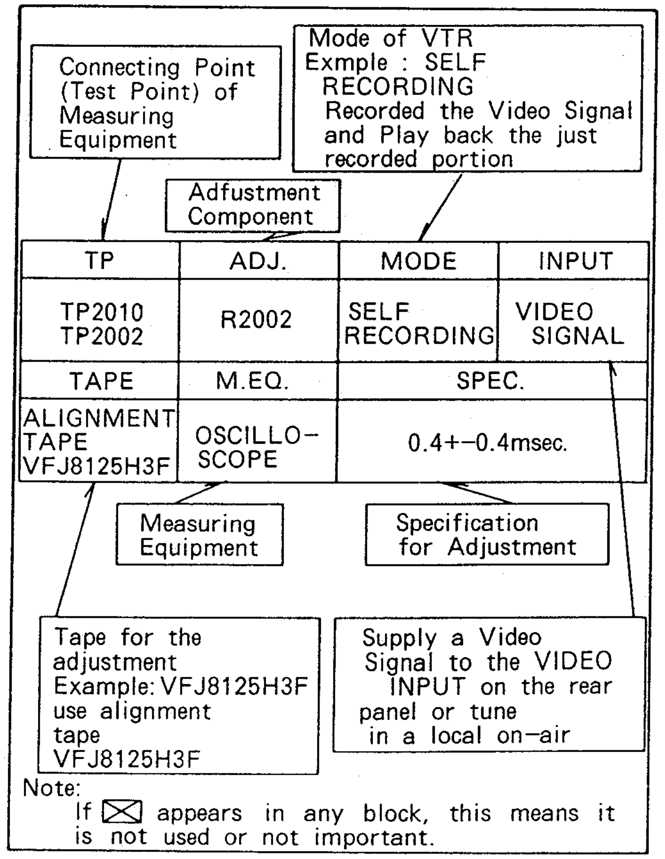
   Voltage Range: 0.001∼50V
2. Dual−Trace Oscilloscope
   Voltage Range: 0.005∼50V/div.
   Frequency Range: DC∼30MHz
   Probes: 10:1 or 1:1
3. Universal Counter
4. Signal Generator (Sinewave)
   Frequency Range: 0∼500KHz
5. Video Sweep Generator
   Frequency Range: 0∼10MHz
6. Colour Monitor TV
7. Plastic Tip Driver
8. VHS Alignment Tape (VFJ8125H3F)

2-3-2. HOW TO READ THE ADJUSTMENT PROCEDURES


Connecting Point (Test Point) of Measuring Equipment
Mode of VTR
Exmple : SELF RECORDING
Recorded the Video Signal and Play back the just recorded portion
Adfustment Component
Measuring Equipment
Specification for Adjustment
Tape for the adjustment
Example: VFJ8125H3F use alignment tape VFJ8125H3F
Supply a Video Signal to the VIDEO INPUT on the rear panel or tune in a local on−air

TP	ADJ.	MODE	INPUT
TP2010 TP2002	R2002	SELF RECORDING	VIDEO SIGNAL
TAPE	M.EQ.	SPEC.	
ALIGNMENT TAPE VFJ8125H3F	OSCILLO−SCOPE	0.4+−0.4msec.	

Note:
If ☒ appears in any block, this means it is not used or not important.

Fig. E1

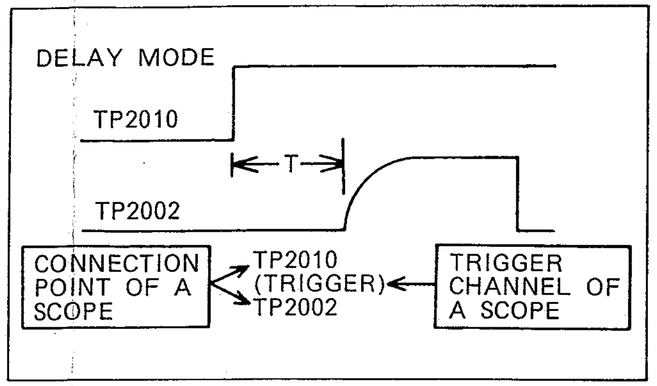

DELAY MODE
TP2010
T
TP2002
CONNECTION POINT OF A SCOPE
TP2010 (TRIGGER)
TP2002
TRIGGER CHANNEL OF A SCOPE

Fig. E2

NOTE:

Before the electrical adjustment, set the VHS VTR as following conditions except for especial instructions in each adjustment item.

1) Picture Sharpness Control...Centre Fix Position
2) Test Signal Switch...OFF Position
3) Noise Filter/Edit Switch...OFF Position
4) Digital Tracking On/Off Switch...ON Position
5) Channel Selection Up and...AV Mode (CH 0) Down Buttons.

SERVO SECTION

2-3-3. PG SHIFTER ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP2001 I/O PACK−13 (VIDEO OUT)	VR2001	PLAY	☒
TAPE	M. EQ.	SPEC.	
ALIGNMENT TAPE VFJ8125H3F	OSCILLO−SCOPE	6.5+−0.5H	

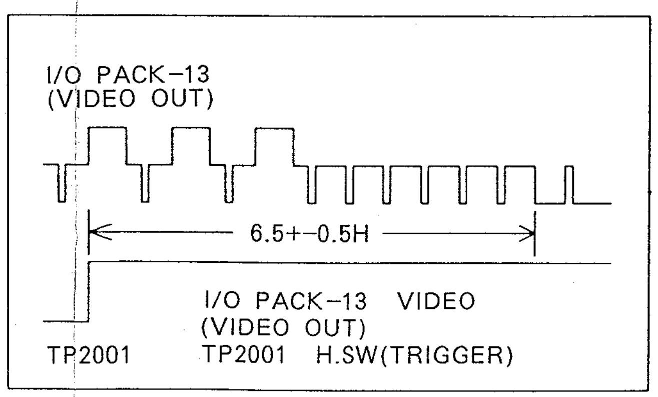

I/O PACK−13 (VIDEO OUT)
6.5+−0.5H
I/O PACK−13 VIDEO (VIDEO OUT)
TP2001
TP2001 H.SW(TRIGGER)

Fig. E3

2-3-4. ARTIFICIAL V-SYNC ADJUSTMENT

TP	ADJ.	MODE	INPUT
☒	VR2010	SELF RECORDING	VIDEO SIGNAL
TAPE	M. EQ.	SPEC.	
BLANK TAPE	TV MONITOR	☒	

1. Playback the just recorded portion and place the deck in STILL mode.
2. Adjust the VR2010 so that the V−dancing does not appear on the TV monitor screen.

LUMINANCE, CHROMINANCE & HEAD AMP SECTION

2-3-5. CHROMINANCE RECORDING CURRENT ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP507(HOT) TP508(GND)	VR502	RECORDING	VIDEO SIGNAL
TAPE	M. EQ.	SPEC.	
BLANK TAPE	OSCILLO−SCOPE	32+−2mVp−p	

1. Connect the oscilloscope to TP507(HOT) and TP508(GND).
2. Connect a jumper wire between P3001−1 and GND. And then place the unit to Recording mode.
3. Adjust VR502, so that chroma level becomes 32+−2mVp−p.

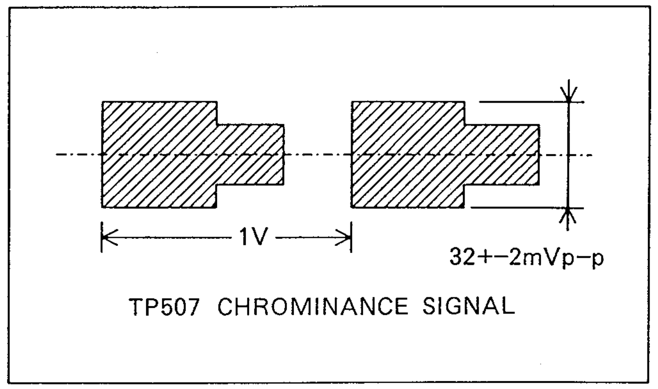

1V
32+−2mVp−p
TP507 CHROMINANCE SIGNAL

Fig. E4

2-3-6. LUMINANCE RECORDING CURRENT ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP507(HOT) TP508(GND)	VR501	RECORDING	VIDEO SIGNAL
TAPE	**M. EQ.**	**SPEC.**	
BLANK TAPE	OSCILLO-SCOPE	130+−5mVp−p	

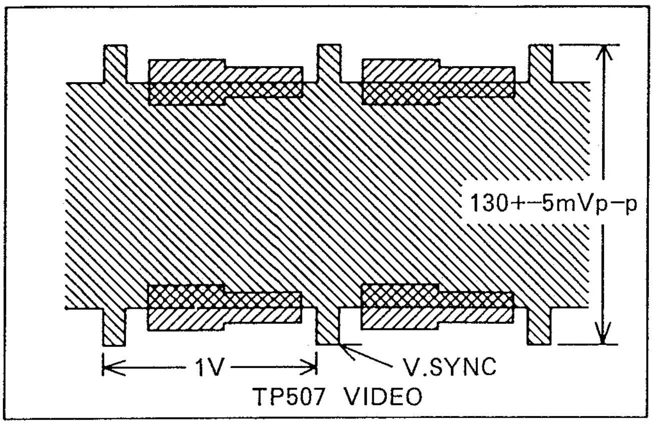

130+−5mVp−p
1V
V.SYNC
TP507 VIDEO

Fig. E5

NOTE:
Prior to Luminance recording current adjustment , Chrominance recording current adjustment should be always completed.

2-3-7. PLAYBACK CHROMA CYAN LEVEL ADJUSTMENT

TP	ADJ.	MODE	INPUT
I/O PACK−13 (VIDEO OUT)	VR803	SELF RECORDING	VIDEO SIGNAL
TAPE	**M. EQ.**	**SPEC.**	
BLANK TAPE	OSCILLO-SCOPE	0.55+−0.05Vp−p	

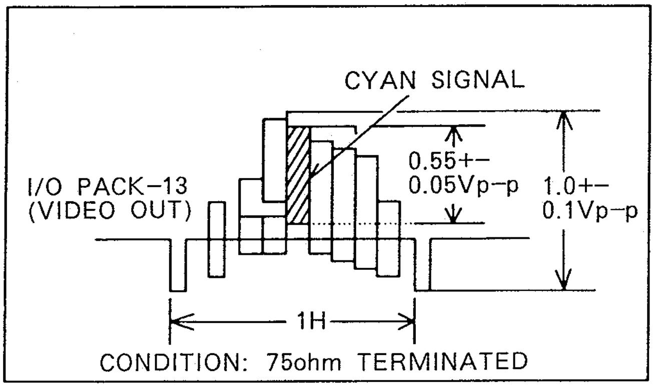

CYAN SIGNAL
I/O PACK−13
(VIDEO OUT)
0.55+−
0.05Vp−p
1.0+−
0.1Vp−p
1H
CONDITION: 75ohm TERMINATED

Fig. E6

2-3-8. HEAD AMP FREQUENCY RESPONSE ADJUSTMENT

TP	ADJ.	MODE	INPUT
I/O PACK−13 (VIDEO OUT)	VR3012	SELF RECORDING	VIDEO SWEEP
TAPE	**M. EQ.**	**SPEC.**	
BLANK TAPE	VIDEO SWEEP/ OSCILLO-SCOPE		

1. Set the sweep generator output as shown in below.

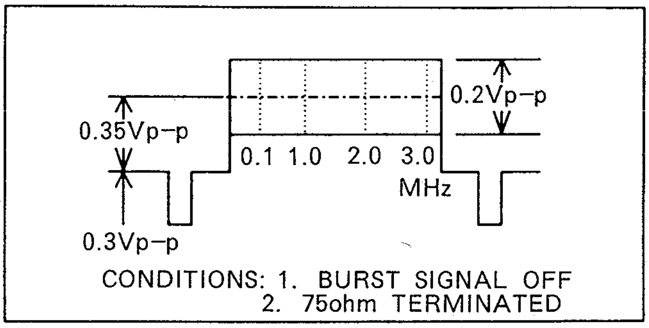

0.2Vp−p
0.35Vp−p
0.1 1.0 2.0 3.0
MHz
0.3Vp−p
CONDITIONS: 1. BURST SIGNAL OFF
2. 75ohm TERMINATED

Fig. E7

2. Picture Sharpness Control is centre fix position.
3. Adjust the VR3012 so that the waveform becomes as shown in below.

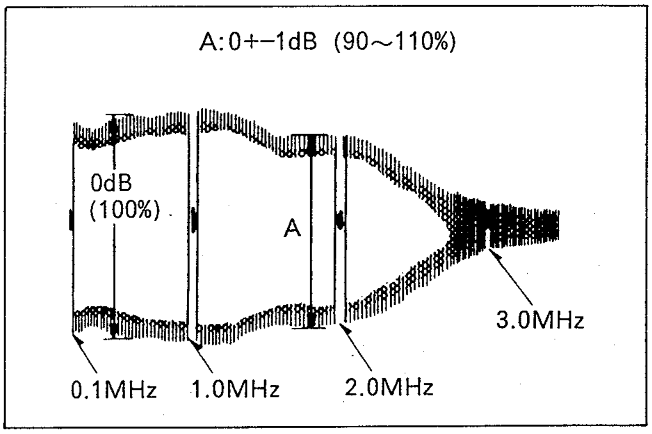

A:0+−1dB (90∼110%)
0dB
(100%)
A
3.0MHz
0.1MHz
1.0MHz
2.0MHz

Fig. E8

2-3-9. Y-NR BALANCE ADJUSTMENT

TP	ADJ.	MODE	INPUT
C306–(+)	VR302	SELF RECORDING	VIDEO SIGNAL (COLOUR BAR)
TAPE	**M. EQ.**	**SPEC.**	
BLANK TAPE	OSCILLO-SCOPE	WAVEFORM IS MINIMIZED	

1. Connect the oscilloscope to (+)side of C306 on Sub Main C.B.A..
2. Adjust VR302 so that the waveform is minimized as shown below.

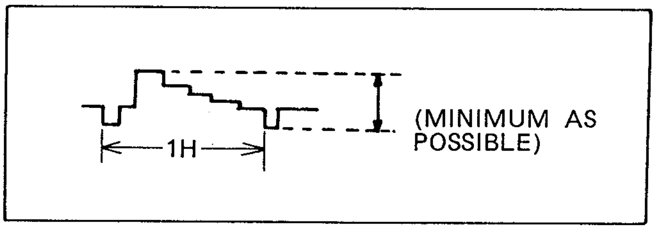


Fig. E9

AUDIO SECTION

2-3-10. AUDIO BIAS CURRENT ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP4002(+) TP4003(–)	VR4002	RECORDING	
TAPE	**M. EQ.**	**SPEC.**	
BLANK TAPE	V.T.V.M.	2.4+–0.1mVrms	

TIMER SECTION

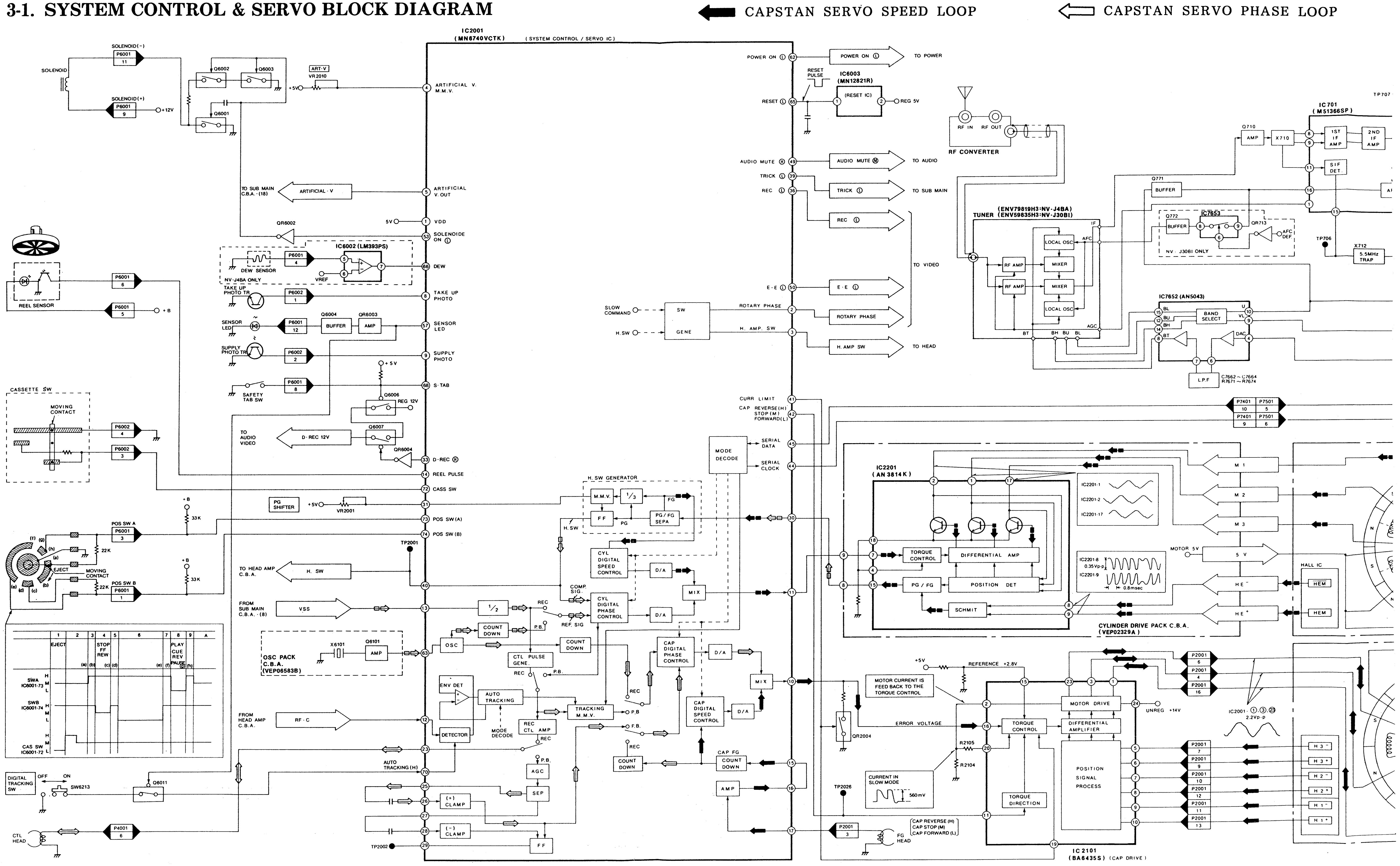
NOTE: Do not connect the AC power plug.

2-3-11. TIMER REFERENCE CLOCK ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP7501	C7501		
TAPE	**M. EQ.**	**SPEC.**	
	UNIVERSAL COUNTER	7812.5+–0.015us	

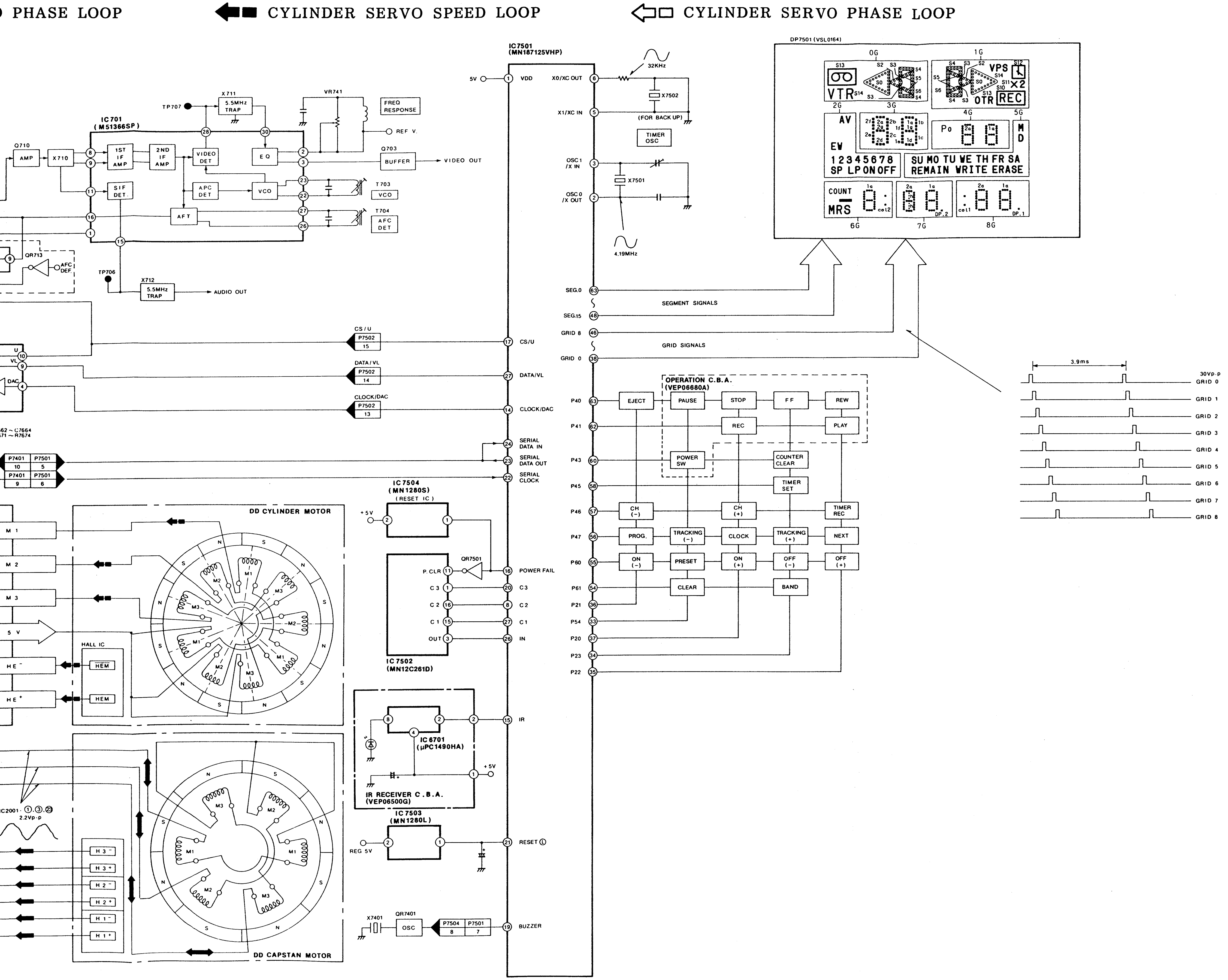
1. Connect a jumper wire between P7501–10 and 11.
2. Connect a jumper wire between P7501–8 and GND.

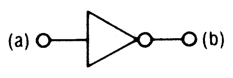
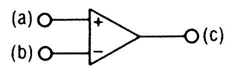
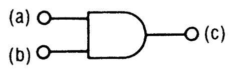
SECTION 3
BLOCK DIAGRAMS & SCHEMATIC DIAGRAMS
3-1. SYSTEM CONTROL & SERVO BLOCK DIAGRAM



CAPSTAN SERVO SPEED LOOP
CAPSTAN SERVO PHASE LOOP
IC2001 (MN6740VCTK) (SYSTEM CONTROL / SERVO IC)
SOLENOID
SOLENOID(−) P6001 11
SOLENOID(+) P6001 9
+12V
Q6002
Q6003
Q6001
ART-V VR2010
+5V
ARTIFICIAL V. M.M.V.
TO SUB MAIN C.B.A.-(18)
ARTIFICIAL-V
ARTIFICIAL V. OUT
5V
VDD
QR6002
SOLENOIDE ON (L)
IC6002 (LM393PS)
DEW SENSOR
NV-J4BA ONLY
VREF
DEW
TAKE UP PHOTO TR
TAKE UP PHOTO
REEL SENSOR
P6001 6
P6001 5
+B
SENSOR LED
BUFFER
AMP
Q6004
QR6003
SUPPLY PHOTO TR
SUPPLY PHOTO
SAFETY TAB SW
S-TAB
Q6006
REG 12V
Q6007
QR6004
TO AUDIO VIDEO
D-REC 12V
D-REC (H)
REEL PULSE
CASSETTE SW
MOVING CONTACT
P6002 4
P6002 3
CASS SW
PG SHIFTER
VR2001
POS SW(A)
POS SW(B)
POS SW A
POS SW B
33K
22K
EJECT
MOVING CONTACT
TP2001
TO HEAD AMP C.B.A.
H. SW
FROM SUB MAIN C.B.A.-(8)
VSS
OSC PACK C.B.A. (VEP06583B)
X6101
Q6101
OSC
COUNT DOWN
CTL PULSE GENE.
FROM HEAD AMP C.B.A.
RF-C
ENV DET
AUTO TRACKING
DETECTOR
MODE DECODE
REC CTL AMP
TRACKING M.M.V.
AUTO TRACKING (H)
DIGITAL TRACKING SW
OFF ON
SW6213
Q6011
CTL HEAD
P4001 6
(+) CLAMP
(−) CLAMP
AGC
SEP
FF
TP2002
H. SW GENERATOR
M.M.V.
1/3
PG/FG SEPA
CYL DIGITAL SPEED CONTROL
CYL DIGITAL PHASE CONTROL
COMP. SIG.
REF. SIG
D/A
MIX
CAP DIGITAL PHASE CONTROL
CAP DIGITAL SPEED CONTROL
CAP FG COUNT DOWN
SLOW COMMAND
SW GENE
ROTARY PHASE
H. AMP. SW
MODE DECODE
SERIAL DATA
SERIAL CLOCK
POWER ON (L)
TO POWER
RESET (L)
RESET PULSE
IC6003 (MN12821R) (RESET IC)
REG 5V
AUDIO MUTE (H)
TO AUDIO
TRICK (L)
REC (L)
TO SUB MAIN
TO VIDEO
E-E (L)
H. AMP SW
TO HEAD
CURR LIMIT
CAP REVERSE(H) STOP(M) FORWARD(L)
RF CONVERTER
RF IN RF OUT
TUNER (ENV79819H3:NV-J4BA) (ENV59835H3:NV-J30BI)
RF AMP
MIXER
LOCAL OSC
IF
AFC
AGC
BT BH BU BL
IC7652 (AN5043)
BAND SELECT
LPF
C7662~C7664 R7671~R7674
IC7653
QR713
AFC DEF
NV-J30BI ONLY
Q771 BUFFER
Q710 AMP
X710
IC701 (M51366SP)
1ST IF AMP
2ND IF AMP
SIF DET
TP706
X712 5.5MHz TRAP
TP707
P7401 P7501
IC2201 (AN3814K)
TORQUE CONTROL
DIFFERENTIAL AMP
PG/FG
POSITION DET
SCHMIT
IC2201-1
IC2201-2
IC2201-17
IC2201-8 0.35Vp-p
IC2201-9
0.8msec
MOTOR 5V
M1 M2 M3
5V
HE− HE+
HALL IC
HEM
CYLINDER DRIVE PACK C.B.A. (VEP02329A)
+5V
REFERENCE +2.8V
MOTOR CURRENT IS FEED BACK TO THE TORQUE CONTROL
ERROR VOLTAGE
QR2004
R2105
R2104
TP2026
CURRENT IN SLOW MODE
560mV
IC2101 (BA6435S) (CAP DRIVE)
MOTOR DRIVE
DIFFERENTIAL AMPLIFIER
TORQUE CONTROL
POSITION SIGNAL PROCESS
TORQUE DIRECTION
UNREG +14V
P2001
IC2001-①③㉓ 2.2Vp-p
H3− H3+ H2− H2+ H1− H1+
CAP REVERSE (H) CAP STOP (M) CAP FORWARD (L)
FG HEAD
P2001 3
N S

	1	2	3	4	5	6	7	8	9	A
	EJECT		STOP FF REW					PLAY CUE REV PAUSE		
		(a)	(b)	(c)	(d)		(e)	(f) (g)	(h)	
SWA IC6001-73 H M L										
SWB IC6001-74 H M L										
CAS SW IC6001-72 H M L										


PHASE LOOP
CYLINDER SERVO SPEED LOOP
CYLINDER SERVO PHASE LOOP
IC7501
(MN187125VHP)
5V
VDD
X0/XC OUT
X1/XC IN
OSC 1 /X IN
OSC 0 /X OUT
32KHz
X7502
(FOR BACK UP)
TIMER OSC
X7501
4.19MHz
SEG.0
SEG.15
GRID 8
GRID 0
SEGMENT SIGNALS
GRID SIGNALS
CS/U
DATA/VL
CLOCK/DAC
SERIAL DATA IN
SERIAL DATA OUT
SERIAL CLOCK
POWER FAIL
C3
C2
C1
IN
IR
RESET
BUZZER
P40
P41
P43
P45
P46
P47
P60
P61
P21
P54
P20
P23
P22
DP7501 (VSL0164)
0G
1G
2G
3G
4G
5G
6G
7G
8G
VTR
VPS
×2
OTR
REC
AV
EW
Po
M
D
1 2 3 4 5 6 7 8
SP LP ON OFF
SU MO TU WE TH FR SA
REMAIN WRITE ERASE
COUNT
MRS
col2
col1
DP.2
DP.1
3.9ms
30Vp-p
GRID 0
GRID 1
GRID 2
GRID 3
GRID 4
GRID 5
GRID 6
GRID 7
GRID 8
OPERATION C.B.A.
(VEP06680A)
EJECT
PAUSE
STOP
FF
REW
REC
PLAY
POWER SW
COUNTER CLEAR
TIMER SET
CH (-)
CH (+)
TIMER REC
PROG.
TRACKING (-)
CLOCK
TRACKING (+)
NEXT
ON (-)
PRESET
ON (+)
OFF (-)
OFF (+)
CLEAR
BAND
IC701
(M51366SP)
Q710
AMP
X710
1ST IF AMP
2ND IF AMP
VIDEO DET
EQ
SIF DET.
APC DET
VCO
AFT
TP707
X711
5.5MHz TRAP
VR741
FREQ RESPONSE
REF V.
Q703
BUFFER
VIDEO OUT
T703
VCO
T704
AFC DET
TP706
X712
5.5MHz TRAP
AUDIO OUT
QR713
AFC DEF.
U
VL
DAC
P7502
15
14
13
62 ~ C7664
71 ~ R7674
P7401
P7501
10
5
9
6
IC7504
(MN1280S)
(RESET IC)
+5V
QR7501
P. CLR
OUT
IC7502
(MN12C261D)
IC6701
(μPC1490HA)
+5V
IR RECEIVER C.B.A.
(VEP06500G)
IC7503
(MN1280L)
REG 5V
X7401
QR7401
OSC
P7504
8
7
DD CYLINDER MOTOR
M 1
M 2
M 3
5 V
HALL IC
HEM
HE⁻
HE⁺
N
S
M1
M2
M3
IC2001 ①.③.㉓
2.2Vp-p
H 3⁻
H 3⁺
H 2⁻
H 2⁺
H 1⁻
H 1⁺
DD CAPSTAN MOTOR

<table>
<tr><th>SYMBOL</th><th>TRUTH VALUE TABLE</th></tr>
<tr><td>INVERTER
</td><td>
<table>
<tr><td>IN</td><td>(a)</td><td>H</td><td>L</td></tr>
<tr><td>OUT</td><td>(b)</td><td>L</td><td>H</td></tr>
</table></td></tr>
<tr><td>COMPARTOR
</td><td>
<table>
<tr><td>IN</td><td>(a)
(b)</td><td>(a) > (b)</td><td>(a) < (b)</td></tr>
<tr><td>OUT</td><td>(c)</td><td>H</td><td>L</td></tr>
</table></td></tr>
<tr><td>AND CIRCUIT
</td><td>
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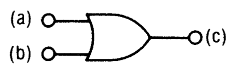
<tr><td>(b)</td><td>L</td><td>H</td><td>L</td><td>H</td></tr>
<tr><td>OUT</td><td>(c)</td><td>L</td><td>L</td><td>L</td><td>H</td></tr>
</table></td></tr>
<tr><td>OR CIRCUIT
</td><td>
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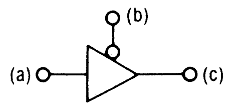
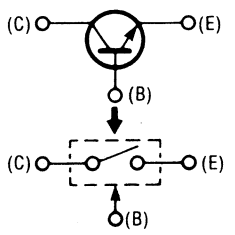
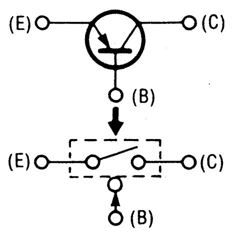
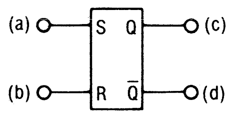
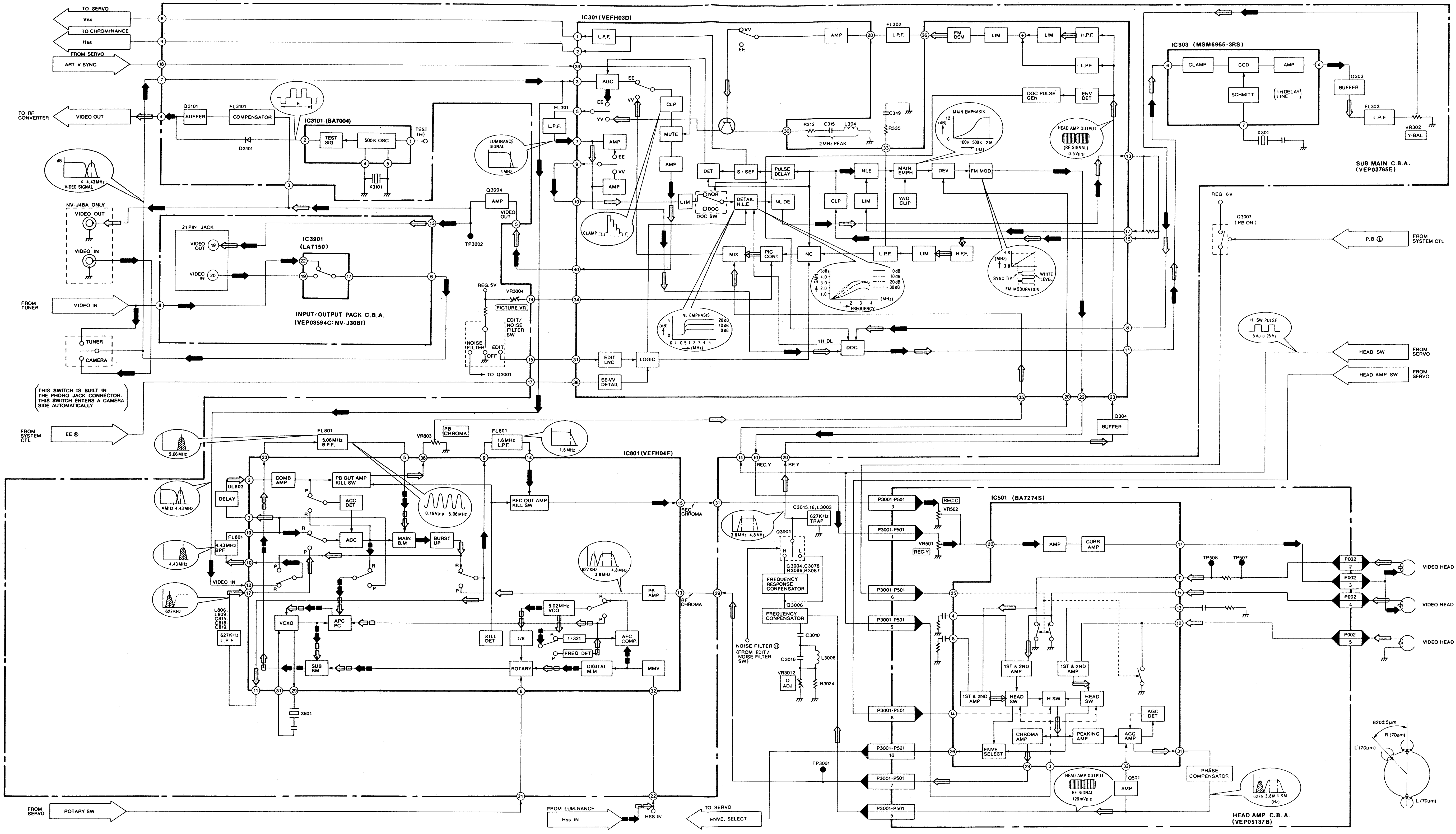
<tr><td rowspan="2">IN</td><td>(a)</td><td>L</td><td>L</td><td>H</td><td>H</td></tr>
<tr><td>(b)</td><td>L</td><td>H</td><td>L</td><td>H</td></tr>
<tr><td>OUT</td><td>(c)</td><td>L</td><td>H</td><td>H</td><td>H</td></tr>
</table></td></tr>
<tr><td>THREE STATES BUFFER
</td><td>
<table>
<tr><td rowspan="2">IN</td><td>(a)</td><td>H</td><td>L</td><td>H or L</td></tr>
<tr><td>(b)</td><td>L</td><td>L</td><td>H</td></tr>
<tr><td>OUT</td><td>(c)</td><td>H</td><td>L</td><td>※</td></tr>
</table>
※ High Impedance</td></tr>
<tr><td>TR. SW (NPN TYPE)
</td><td>
<table>
<tr><td>BASE</td><td>H</td><td>L</td></tr>
<tr><td>TR. SW</td><td>ON</td><td>OFF</td></tr>
</table></td></tr>
<tr><td>TR. SW (PNP TYPE)
</td><td>
<table>
<tr><td>BASE</td><td>H</td><td>L</td></tr>
<tr><td>TR. SW</td><td>OFF</td><td>ON</td></tr>
</table></td></tr>
<tr><td>R-S TYPE FLIP-FLOP
</td><td>
<table>
<tr><td rowspan="2">IN</td><td>(a)</td><td>L</td><td>L</td><td>⎍</td></tr>
<tr><td>(b)</td><td>L</td><td>⎍</td><td>L</td></tr>
<tr><td rowspan="2">OUT</td><td>(c)</td><td>※</td><td>L</td><td>H</td></tr>
<tr><td>(d)</td><td>◆</td><td>H</td><td>L</td></tr>
</table>
※ Initial condition is maintained.
◆ Initial condition is reverced.</td></tr>
</table>

3-2. LUMINANCE & CHROMINANCE BLOCK DIAGRAM

3-3. POW

MAIN SIGNAL PATH IN REC MODE
MAIN SIGNAL PATH IN PLAYBACK MODE
5.06MHz PHASE ROTATIONAL SIGNAL IN REC MODE
5.06MHz PHASE ROTATIONAL SIGNAL IN PLAYBACK MODE


TO SERVO
Vss
TO CHROMINANCE
Hss
FROM SERVO
ART V SYNC
TO RF CONVERTER
VIDEO OUT
Q3101
BUFFER
FL3101
COMPENSATOR
IC3101 (BA7004)
TEST SIG
500K OSC
TEST (H)
D3101
X3101
H
dB
4 4.43MHz
VIDEO SIGNAL
NV-J4BA ONLY
VIDEO OUT
VIDEO IN
21PIN JACK
VIDEO OUT
VIDEO IN
IC3901 (LA7150)
INPUT/OUTPUT PACK C.B.A. (VEP03594C:NV-J30BI)
FROM TUNER
VIDEO IN
TUNER
CAMERA
THIS SWITCH IS BUILT IN THE PHONO JACK CONNECTOR. THIS SWITCH ENTERS A CAMERA SIDE AUTOMATICALLY
FROM SYSTEM CTL
EE Ⓗ
Q3004
AMP
VIDEO OUT
TP3002
REG. 5V
VR3004
PICTURE VR
EDIT/ NOISE FILTER SW
NOISE FILTER
EDIT
OFF
TO Q3001
LUMINANCE SIGNAL
4MHz
IC301(VEFH03D)
L.P.F.
FL301
AGC
EE
VV
CLP
MUTE
AMP
CLAMP
LIM
NOR
DOC
DOC SW
DETAIL N.L.E.
NL DE
DET
S·SEP
PULSE DELAY
NLE
MAIN EMPH
DEV
FM MOD
CLP
W/D CLIP
MIX
PIC CONT
NC
EDIT LNC
LOGIC
EE-VV DETAIL
1H DL
DOC
NL EMPHASIS
(dB)
20dB
10dB
0dB
(MHz)
GAIN (dB)
FREQUENCY
30dB
R312
C315
L304
2MHz PEAK
C349
R335
FL302
FM DEM
H.P.F.
DOC PULSE GEN
ENV DET
MAIN EMPHASIS
(Hz)
HEAD AMP OUTPUT
(RF SIGNAL)
0.5Vp-p
4.8
3.8
SYNC TIP
WHITE LEVEL
FM MODURATION
IC303 (MSM6965-3RS)
CLAMP
CCD
SCHMITT
(1H DELAY LINE)
X301
Q303
BUFFER
FL303
VR302
Y-BAL
SUB MAIN C.B.A. (VEP03765E)
REG 6V
Q3007 (PB ON)
P.B Ⓛ
FROM SYSTEM CTL
H. SW PULSE
5Vp-p 25Hz
HEAD SW
FROM SERVO
HEAD AMP SW
FROM SERVO
Q304
BUFFER
FL801
5.06MHz B.P.F.
5.06MHz
VR803
PB CHROMA
1.6MHz L.P.F.
1.6MHz
IC801 (VEFH04F)
DL803
DELAY
4MHz 4.43MHz
COMB AMP
PB OUT AMP KILL SW
ACC DET
ACC
MAIN B.M
BURST UP
0.16Vp-p 5.06MHz
REC OUT AMP KILL SW
REC CHROMA
4.43MHz BPF
4.43MHz
VIDEO IN
627KHz
L806, L809, C815, C818, C819
627KHz L.P.F.
VCXO
APC PC
SUB BM
KILL DET
1/8
5.02MHz VCO
1/321
FREQ. DET
AFC COMP.
ROTARY
DIGITAL M.M
MMV
627KHz 4.8MHz 3.8MHz
PB AMP
RF CHROMA
X801
FROM SERVO
ROTARY SW
FROM LUMINANCE
Hss IN
HSS IN
TO SERVO
ENVE. SELECT
REC.Y
RF.Y
C3015,16,L3003
627KHz TRAP
3.8MHz 4.8MHz
Q3001
C3004,C3076 R3086,R3087
FREQUENCY RESPONSE CONPENSATOR
Q3006
FREQUENCY CONPENSATOR
C3010
C3016
L3006
VR3012
Q ADJ
R3024
NOISE FILTER Ⓗ (FROM EDIT/ NOISE FILTER SW)
TP3001
P3001-P501
REC-C
VR502
VR501
REC-Y
IC501 (BA7274S)
AMP
CURR AMP
TP508
TP507
P002
VIDEO HEAD L
VIDEO HEAD R
VIDEO HEAD L'
1ST & 2ND AMP
HEAD SW
H SW
AGC DET
CHROMA AMP
PEAKING AMP
AGC AMP
ENVE SELECT
HEAD AMP OUTPUT
RF SIGNAL
120mVp-p
Q501
AMP
PHASE COMPENSATOR
627k 3.8M 4.8M (Hz)
HEAD AMP C.B.A. (VEP05137B)
620±5µm
R (70µm)
L'(70µm)
L (70µm)

F
E
D
C
B
A

P11
AC

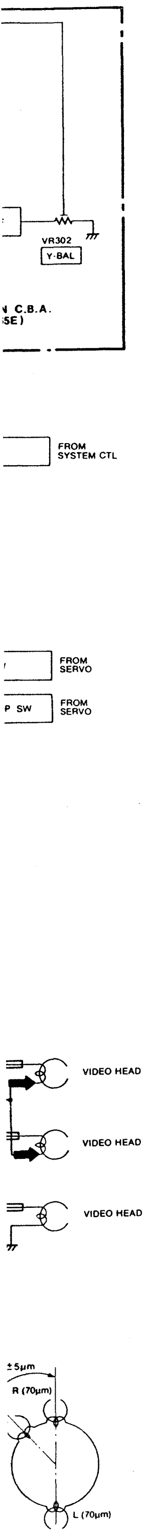
IMPORTANT
COMPONENTS
WHEN REPLACI

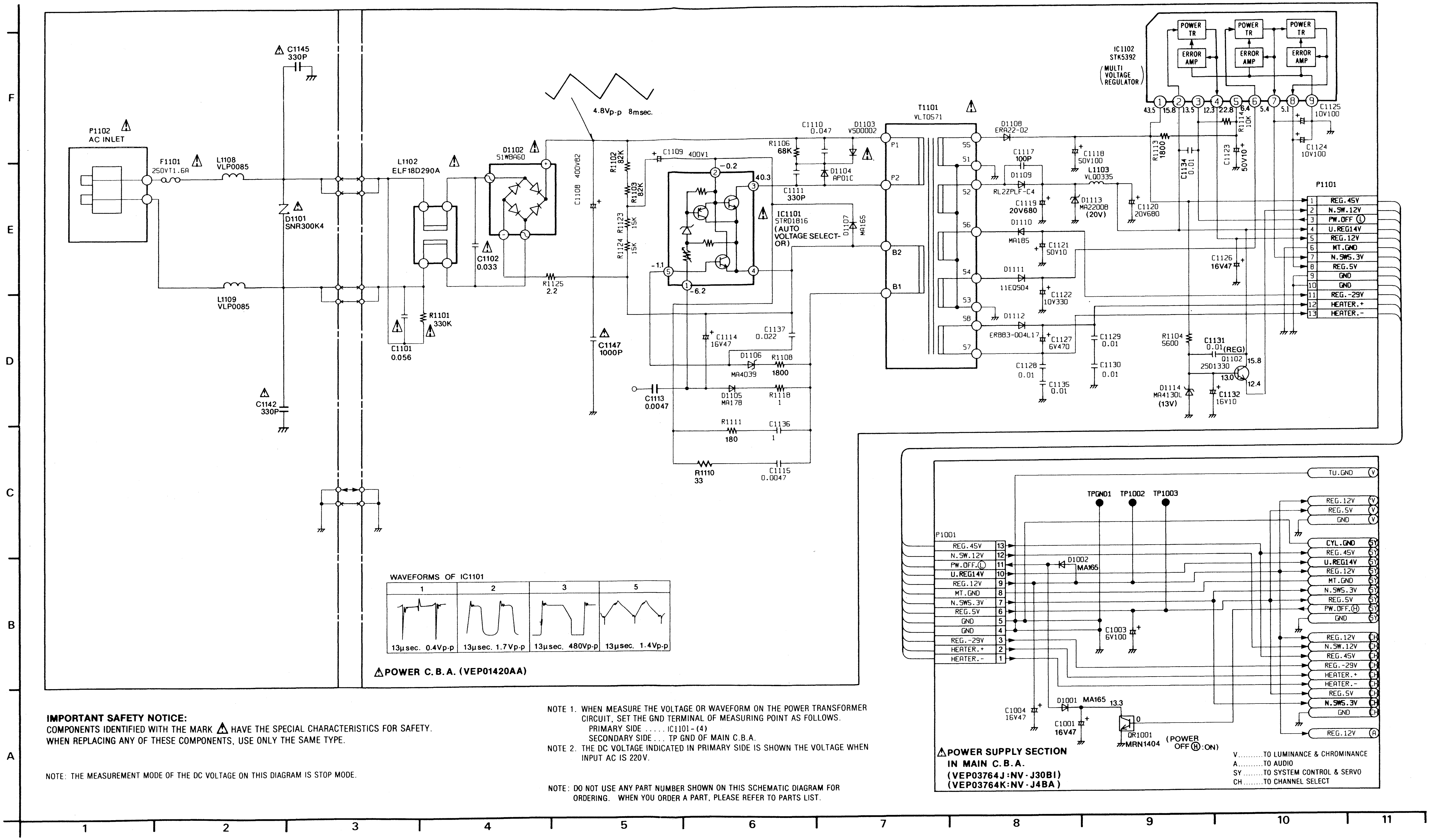
NOTE: THE MEA

1

Back Page:
SYSTEM CONTROL & SERVO Section

3-3. POWER SCHEMATIC DIAGRAM


VR302
Y-BAL
C.B.A.
SE)
FROM SYSTEM CTL
FROM SERVO
P SW
FROM SERVO
VIDEO HEAD L
VIDEO HEAD R
VIDEO HEAD L'
R (70μm)
L (70μm)


F
E
D
C
B
A
P1102
AC INLET
F1101
250VT1.6A
L1108
VLP0085
L1109
VLP0085
C1145
330P
D1101
SNR300K4
C1142
330P
L1102
ELF18D290A
C1101
0.056
R1101
330K
C1102
0.033
D1102
S1WBA60
R1125
2.2
C1108 400V82
C1147
1000P
4.8Vp-p 8msec.
R1102
82K
R1103
82K
R1123
15K
R1124
15K
C1109 400V1
-0.2
40.3
-1.1
-6.2
IC1101
STRD1816
(AUTO VOLTAGE SELECTOR)
C1110
0.047
D1103
VSD0002
R1106
68K
D1104
AP01C
C1111
330P
D1107
MA165
C1137
0.022
C1114
16V47
D1106
MA4039
R1108
1800
C1113
0.0047
D1105
MA178
R1118
1
R1111
180
C1136
1
R1110
33
C1115
0.0047
T1101
VLT0571
P1
P2
B2
B1
S5
S1
S2
S6
S4
S3
S8
S7
D1108
ERA22-02
C1117
100P
D1109
RL2ZPLF-C4
C1118
50V100
L1103
VL00335
C1119
20V680
D1113
MA22008
(20V)
C1120
20V680
D1110
MA185
C1121
50V10
D1111
11EQS04
C1122
10V330
D1112
ERB83-004L17
C1127
6V470
C1128
0.01
C1135
0.01
C1129
0.01
C1130
0.01
IC1102
STK5392
(MULTI VOLTAGE REGULATOR)
POWER TR
ERROR AMP
1 2 3 4 5 6 7 8 9
43.5
15.8
13.5
12.3
22.8
6.4
5.4
5.1
C1125
10V100
C1124
10V100
R1113
1800
R1114
10K
C1134
0.01
C1123
50V10
C1126
16V47
R1104
5600
C1131
0.01
(REG)
Q1102
2SD1330
15.8
13.0
12.4
D1114
MA4130L
(13V)
C1132
16V10
P1101
1 REG.45V
2 N.SW.12V
3 PW.OFF Ⓛ
4 U.REG14V
5 REG.12V
6 MT.GND
7 N.SW5.3V
8 REG.5V
9 GND
10 GND
11 REG.-29V
12 HEATER.+
13 HEATER.-
WAVEFORMS OF IC1101
1
2
3
5
13μsec. 0.4Vp-p
13μsec. 1.7Vp-p
13μsec. 480Vp-p
13μsec. 1.4Vp-p
⚠POWER C.B.A. (VEP01420AA)
P1001
REG.45V 13
N.SW.12V 12
PW.OFF.Ⓛ 11
U.REG14V 10
REG.12V 9
MT.GND 8
N.SW5.3V 7
REG.5V 6
GND 5
GND 4
REG.-29V 3
HEATER.+ 2
HEATER.- 1
TPGND1
TP1002
TP1003
D1002
MA165
C1003
6V100
C1004
16V47
D1001
MA165
13.3
C1001
16V47
0
QR1001
MRN1404
(POWER OFF Ⓗ:ON)
TU.GND Ⓥ
REG.12V Ⓥ
REG.5V Ⓥ
GND Ⓥ
CYL.GND SY
REG.45V SY
U.REG14V SY
REG.12V SY
MT.GND SY
N.SW5.3V SY
REG.5V SY
PW.OFF.Ⓗ SY
GND SY
REG.12V CH
N.SW.12V CH
REG.45V CH
REG.-29V CH
HEATER.+ CH
HEATER.- CH
REG.5V CH
N.SW5.3V CH
GND CH
REG.12V Ⓐ
⚠POWER SUPPLY SECTION IN MAIN C.B.A.
(VEP03764J:NV-J30BI)
(VEP03764K:NV-J4BA)
1
2
3
4
5
6
7
8
9
10
11

V..........TO LUMINANCE & CHROMINANCE
A..........TO AUDIO
SY........TO SYSTEM CONTROL & SERVO
CH........TO CHANNEL SELECT

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

NOTE 1. WHEN MEASURE THE VOLTAGE OR WAVEFORM ON THE POWER TRANSFORMER CIRCUIT, SET THE GND TERMINAL OF MEASURING POINT AS FOLLOWS.
PRIMARY SIDE ..... IC1101-(4)
SECONDARY SIDE ... TP GND OF MAIN C.B.A.

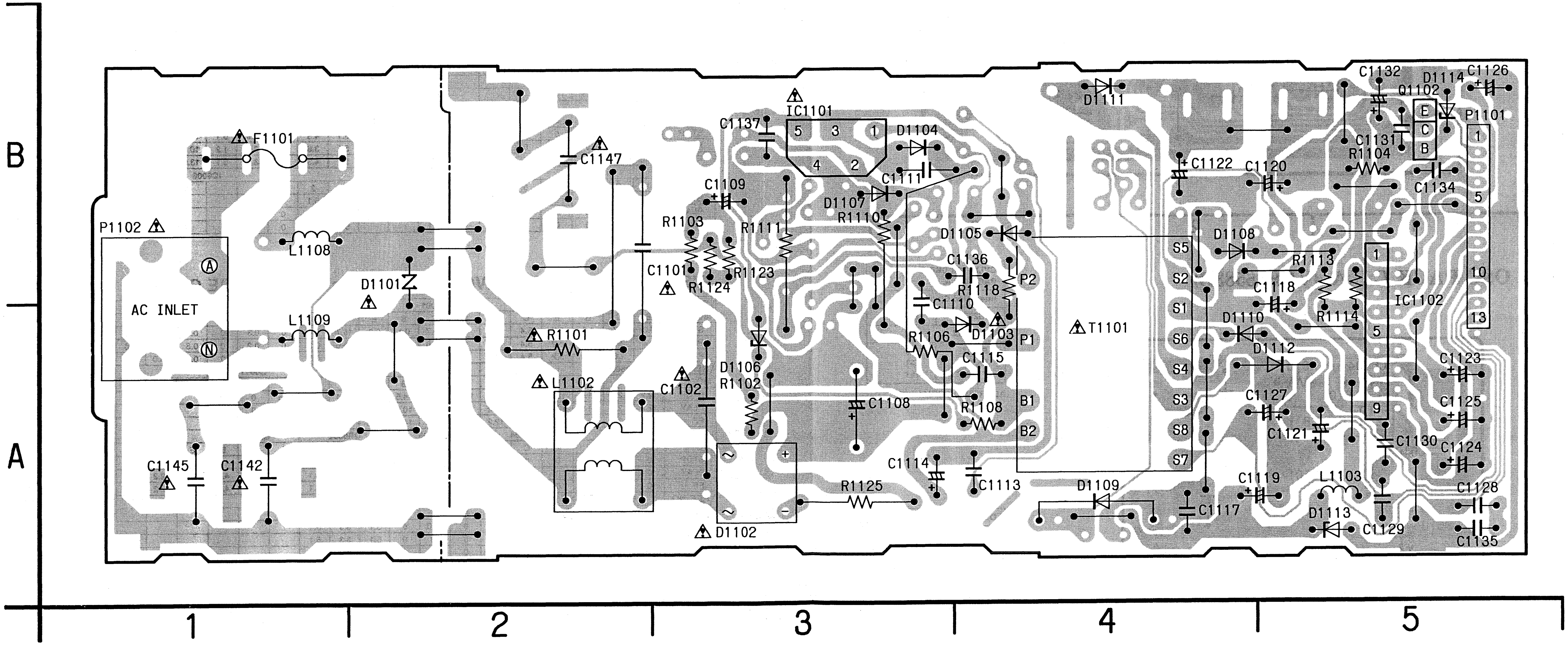
NOTE 2. THE DC VOLTAGE INDICATED IN PRIMARY SIDE IS SHOWN THE VOLTAGE WHEN INPUT AC IS 220V.

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

3-4. POWER C.B.A. (VEP01420AA)

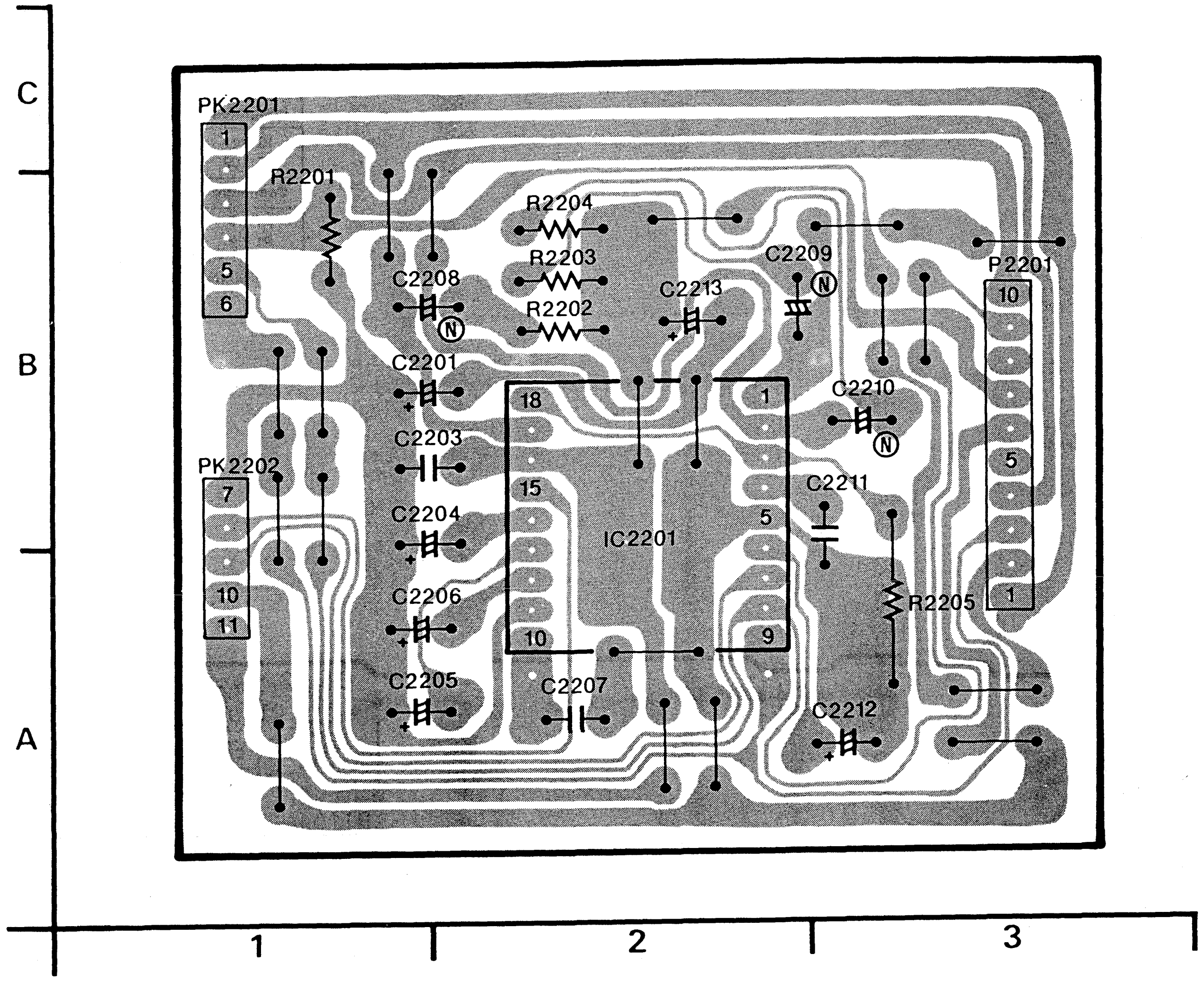
POWER C.B.A.	
Transistor	
Q1102	B-5
Integrated Circuit	
IC1101 IC1102	B-3 B-5
Connector	
P1101 P1102	C-5 B-1

ADDRESS INFORMATION

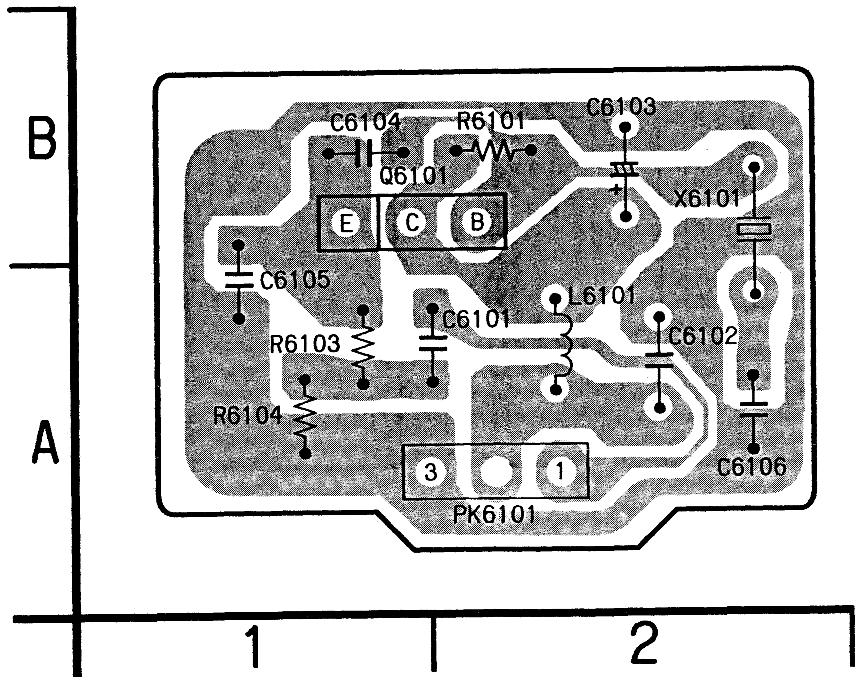


B
A
1
2
3
4
5
P1102
AC INLET
Ⓐ
Ⓝ
F1101
L1108
L1109
D1101
C1145
C1142
C1147
R1101
L1102
R1103
C1101
R1124
R1123
C1109
C1137
IC1101
5
3
1
4
2
D1104
C1111
D1107
R1110
R1111
C1102
D1106
R1102
D1102
C1108
D1105
C1136
R1118
P2
C1110
D1103
P1
R1106
C1115
R1108
B1
B2
C1114
C1113
R1125
D1111
T1101
D1109
S5
S2
S1
S6
S4
S3
S8
S7
C1117
C1122
C1120
D1108
R1113
C1118
R1114
D1110
D1112
C1127
C1121
C1119
L1103
D1113
C1129
C1130
C1132
Q1102
E
C
B
C1131
R1104
D1114
C1126
P1101
1
5
10
13
C1134
IC1102
1
5
9
C1123
C1125
C1124
C1128
C1135

3-5. CYLINDER DRIVE PACK C.B.A. (VEP02329A)



3-6. OSC PACK C.B.A. (VEP06583B)



CYLINDER DRIVE PACK C.B.A.	
Integrated Circuit	
IC2201	B-2
Connector	
P2201 PK2201 PK2202	B-3 C-1 B-1

ADDRESS INFORMATION

OSC PACK C.B.A.	
Transistor	
Q6101	B-1
Connector	
PK6101	A-2

ADDRESS INFORMATION

Back Page:
POWER Section

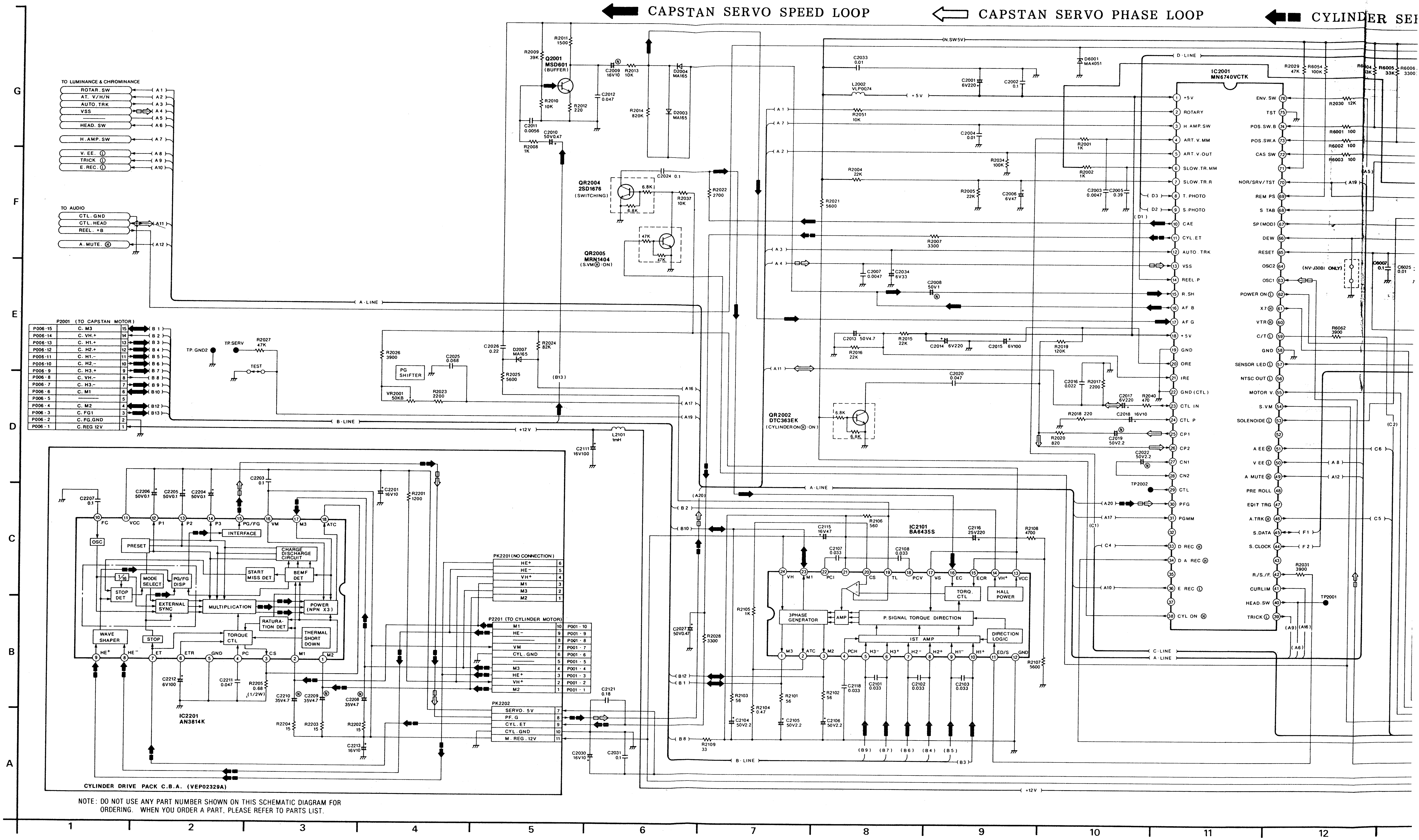
SYSTEM CONTROL & SERVO ICs DC VOLTAGE CHART

REF. NO.	IC2001																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
STOP	5.1	0	0	0.1	0	1.3	2.5	3.3	3.2	2.6	4.3	1.7	2.5	4.3	2.5	2.5	2.5	5.1	0	2.5
PLAY	5.1	5.1	0	0.1	0	1.4	2.5	3.3	3.3	2.5	2.5	2.5	2.5	4.3	2.5	2.5	2.5	5.1	0	2.5
FF	5.1	0	0	0.1	0	1.4	2.5	3.3	3.3	2.6	4.3	1.7	2.5	2.3	2.5	2.5	—	5.1	0	2.5
REF. NO.	IC2001																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
STOP	2.5	0	2.5	2.5	1.2	2.9	3.9	2.1	0	5.1	0	0	0	0	3.4	0	5.1	0	5.1	0
PLAY	2.5	0	2.5	2.5	1.2	2.5	4.1	3.0	5.1	1.1	3.0	0	0	0	3.1	0.1	5.1	5.0	5.1	5.1
FF	2.5	0	2.5	2.5	1.4	1.5	3.7	3.4	3.0	5.1	0.1	0	0	0	3.2	0.2	5.1	0	5.1	0
REF. NO.	IC2001																			
MODE	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
STOP	4.9	2.1	0	4.7	4.2	0	0	5.1	0	0	5.1	0	5.1	0	0	5.1	4.7	0	5.1	0
PLAY	5.0	0	0	4.9	4.5	0	0	5.1	0	5.1	0	5.1	5.1	0	5.1	5.1	4.7	0	5.1	0
FF	5.0	0	0	4.6	4.6	0	0	5.1	0	0	5.1	0	5.1	0	0	5.1	4.7	0	5.1	0
REF. NO.	IC2001																			
MODE	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76				
STOP	0	0	—	—	5.0	0	0	0.5	5.0	4.5	5.0	2.0	5.1	2.0	0	0				
PLAY	0	0	—	—	5.1	0	0	0.5	5.0	4.5	5.1	2.0	0	5.1	0	0.1				
FF	0	0	—	—	5.1	0	0	0.5	5.0	4.5	5.1	2.0	5.1	2.0	0	0				
REF. NO.	IC2101																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
STOP	7.1	0	7.1	1.4	2.0	2.1	2.1	2.0	2.1	2.1	2.1	0	5.1	3.7	2.7	2.6	5.1	0	0.4	0
PLAY	2.3	0.1	2.3	1.3	2.1	2.1	2.1	2.1	2.1	2.1	0	0	5.0	3.8	2.7	2.5	5.0	0.6	0.4	0.1
FF	3.1	0	3.1	1.3	2.1	2.1	2.1	2.1	2.1	2.1	0	0	5.0	3.8	2.7	2.5	5.0	0.6	0.4	0
REF. NO.	IC2101																			
MODE	21	22	23	24																
STOP	0	0.6	7.1	14.0																
PLAY	0	0.6	2.3	10.3																
FF	0	0.6	3.1	14.0																
REF. NO.	IC2201																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18		
STOP	14.0	14.0	0	0	0	2.6	0	0.5	0.4	1.2	5.1	4.3	4.3	3.9	5.1	14.0	14.0	0		
PLAY	10.5	10.5	0	0.5	0	2.6	0.3	0.5	0.5	2.8	5.1	3.6	3.6	3.6	1.2	10.1	10.5	0		
FF	14.0	14.0	0	0	0	2.6	0	0.4	0.7	1.2	5.1	4.3	4.3	3.9	5.1	13.9	13.9	0		
REF. NO.	IC6002										IC6003									
MODE	1	2	3	4	5	6	7	8			1	2	3							
STOP	0	1.6	0	0	0	0.3	0	5.1			5.0	5.1	0							
PLAY	0	1.5	0	0	0	0.3	0	5.1			5.0	5.0	0							
FF	0	1.5	0	0	0	0.3	0	5.1			5.0	5.1	0							

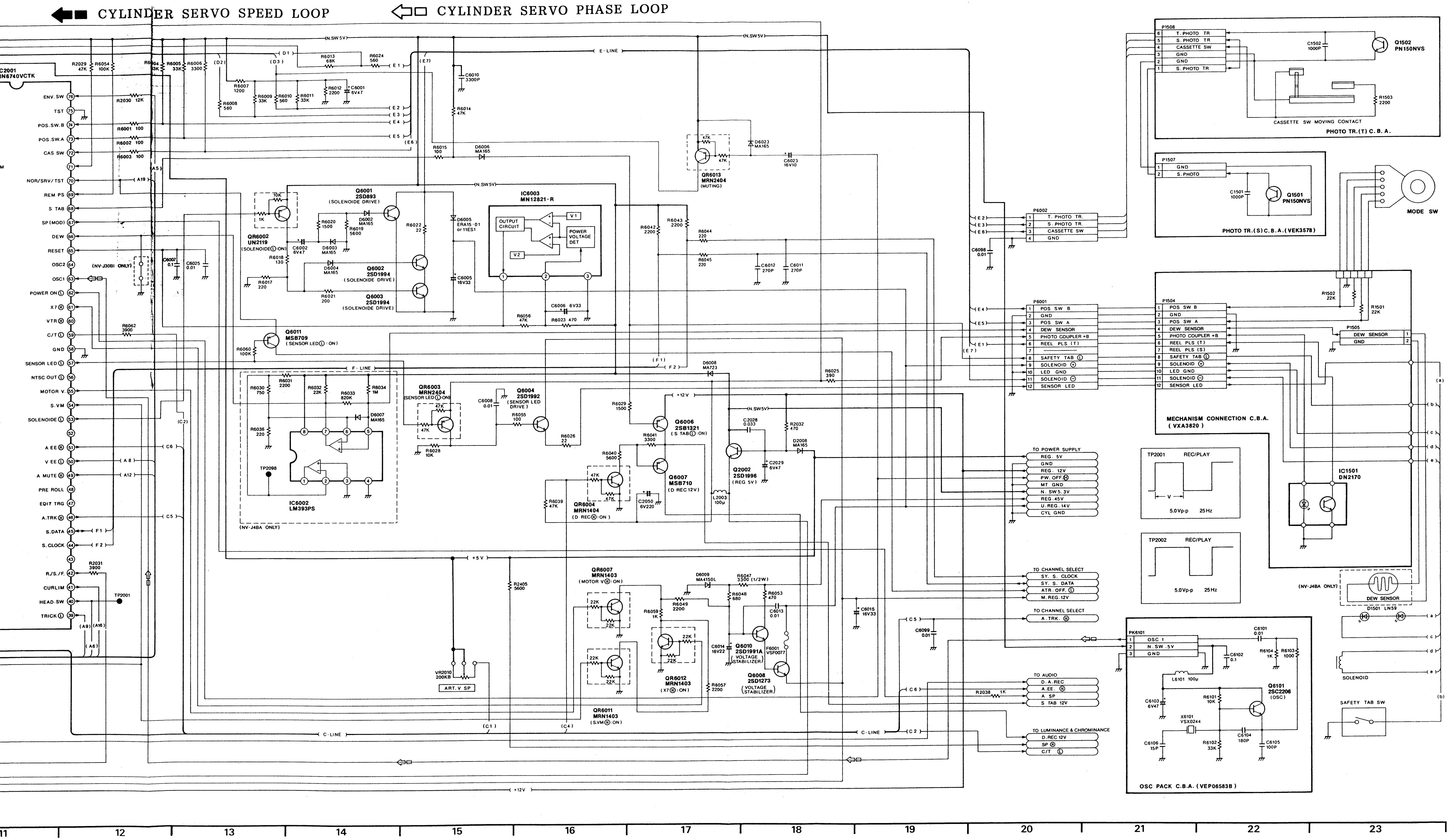
SYSTEM CONTROL & SERVO TRANSISTORs DC VOLTAGE CHART

REF. NO.	Q2001			Q2002			Q6001			Q6002			Q6003			Q6004		
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
STOP	0.3	2.7	1.0	5.2	5.4	5.8	0	15.7	0.1	0.2	15.7	0.4	0	0.3	0	0.8	14.0	0.6
PLAY	0.4	2.6	1.0	5.2	5.4	5.8	0	15.6	0.2	0.2	15.6	0.3	0	0.2	0	0.8	10.3	0.6
FF	0.4	2.6	0.9	5.2	5.4	5.8	0	15.7	0.2	0.4	15.7	0.5	0	0.4	0	0.8	14.0	0.6
REF. NO.	Q6006			Q6007			Q6008			Q6010			Q6011					
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B			
STOP	12.2	12.2	11.5	12.2	0	12.2	14.0	15.7	14.5	14.5	43.4	15.0	4.5	0	4.6			
PLAY	12.2	12.2	11.5	12.2	−0.2	12.2	10.3	15.6	10.9	10.9	43.4	11.4	4.8	0	4.4			
FF	12.2	12.2	11.5	12.2	0	12.2	14.0	15.6	14.6	14.6	43.4	15.1	4.6	0	4.6			
REF. NO.	QR2002			QR2004			QR2005			QR6002			QR6003			QR6004		
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
STOP	0	0	0	0	0	2.5	0	2.5	0	5.1	0	5.1	5.1	0.6	4.5	0	12.2	0
PLAY	0	0	5.0	0	0	2.5	0	2.5	0	5.1	0	5.1	5.0	0.6	4.6	0	12.2	0
FF	0	0.9	0	0	0	2.5	0	2.5	0	5.1	0	5.1	5.0	0.6	4.5	0	12.2	0
REF. NO.	QR6007			QR6011			QR6012			QR6013								
MODE	E	C	B	E	C	B	E	C	B	E	C	B						
STOP	0	15.0	0	0	15.0	0	0	15.0	0	5.1	3.3	5.1						
PLAY	0	0.1	5.0	0	0.1	0	0	0.1	0	5.1	3.3	5.1						
FF	0	15.1	0	0	15.1	0	0	15.1	0	5.1	3.3	5.1						

3-7. SYSTEM CONTROL & SERVO SCHEMATIC DIAGRAM


CAPSTAN SERVO SPEED LOOP
CAPSTAN SERVO PHASE LOOP
CYLINDER SE
TO LUMINANCE & CHROMINANCE
ROTAR. SW
AT. V/H/N
AUTO. TRK
VSS
HEAD. SW
H. AMP. SW
V. EE. Ⓛ
TRICK Ⓛ
E. REC. Ⓛ
TO AUDIO
CTL. GND
CTL. HEAD
REEL. +B
A. MUTE. Ⓗ
P2001 (TO CAPSTAN MOTOR)
P006-15 C. M3 15
P006-14 C. VH.+ 14
P006-13 C. H1.+ 13
P006-12 C. H2.+ 12
P006-11 C. H1.- 11
P006-10 C. H2.- 10
P006-9 C. H3.+ 9
P006-8 C. VH.- 8
P006-7 C. H3.- 7
P006-6 C. M1 6
P006-5 5
P006-4 C. M2 4
P006-3 C. FG1 3
P006-2 C. FG. GND 2
P006-1 C. REG 12V 1
Q2001 MSD601 (BUFFER)
QR2004 2SD1676 (SWITCHING)
QR2005 MRN1404 (S.VM Ⓗ ON)
QR2002 DTC363EK (CYLINDER ON Ⓗ ON)
TP. GND2
TP. SERV
TEST
PG SHIFTER
VR2001 50KB
A-LINE
B-LINE
+12V
L2101 1mH
IC2001 MN6740VCTK
+5V
ROTARY
H. AMP. SW
ART. V. MM
ART. V. OUT
SLOW. TR. MM
SLOW. TR. R
T. PHOTO
S. PHOTO
CAE
CYL. ET
AUTO. TRK
VSS
REEL. P
R. SH
AF B
AF G
GND
ORE
IRE
GND (CTL)
CTL IN
CTL P
CP1
CP2
CN1
CN2
CTL
PFG
PGMM
D. REC Ⓗ
D. A. REC Ⓗ
E. REC Ⓛ
CYL ON Ⓗ
ENV. SW
TST
POS. SW. B
POS. SW. A
CAS SW
NOR/SRV/TST
REM PS
S TAB
SP (MOD)
DEW
RESET
OSC2
OSC1
POWER ON Ⓛ
X7 Ⓗ
VTR Ⓗ
C/T Ⓛ
GND
SENSOR LED Ⓛ
NTSC OUT Ⓛ
MOTOR V.
S. VM
SOLENOIDE Ⓛ
A EE Ⓗ
V EE Ⓛ
A MUTE Ⓗ
PRE ROLL
EDIT TRG
A. TRK Ⓗ
S. DATA
S. CLOCK
R./S./F.
CURLIM
HEAD. SW
TRICK Ⓛ
(NV-J30B) ONLY)
TP2001
TP2002
C-LINE
A-LINE
IC2101 BA6435S
VH M1 PCI CS TL PCV VS EC ECR VH+ VCC
3PHASE GENERATOR
AMP
P. SIGNAL TORQUE DIRECTION
IST AMP
DIRECTION LOGIC
TORQ. CTL
HALL POWER
M3 ATC M2 PCH H3- H3+ H2- H2+ H1- H1+ ED/S GND
IC2201 AN3814K
FC VCC P1 P2 P3 PG/FG VM M3 ATC
OSC
PRESET
INTERFACE
CHARGE DISCHARGE CIRCUIT
1/16
MODE SELECT
PG/FG DISP
STOP DET
START MISS DET
BEMF DET
EXTERNAL SYNC
MULTIPLICATION
POWER (NPN X3)
RATURATION DET
THERMAL SHORT DOWN
WAVE SHAPER
STOP
TORQUE CTL
HE+ HE- ET ETR GND PC CS M1 M2
PK2201 (NO CONNECTION)
HE+ 6
HE- 5
VH+ 4
M1 3
M3 2
M2 1
P2201 (TO CYLINDER MOTOR)
M1 10 P001-10
HE- 9 P001-9
8 P001-8
VM 7 P001-7
CYL. GND 6 P001-6
5 P001-5
M3 4 P001-4
HE+ 3 P001-3
VH+ 2 P001-2
M2 1 P001-1
PK2202
SERVO. 5V 7
PF. G 8
CYL. ET 9
CYL. GND 10
M. REG. 12V 11
CYLINDER DRIVE PACK C.B.A. (VEP02329A)
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
11
12

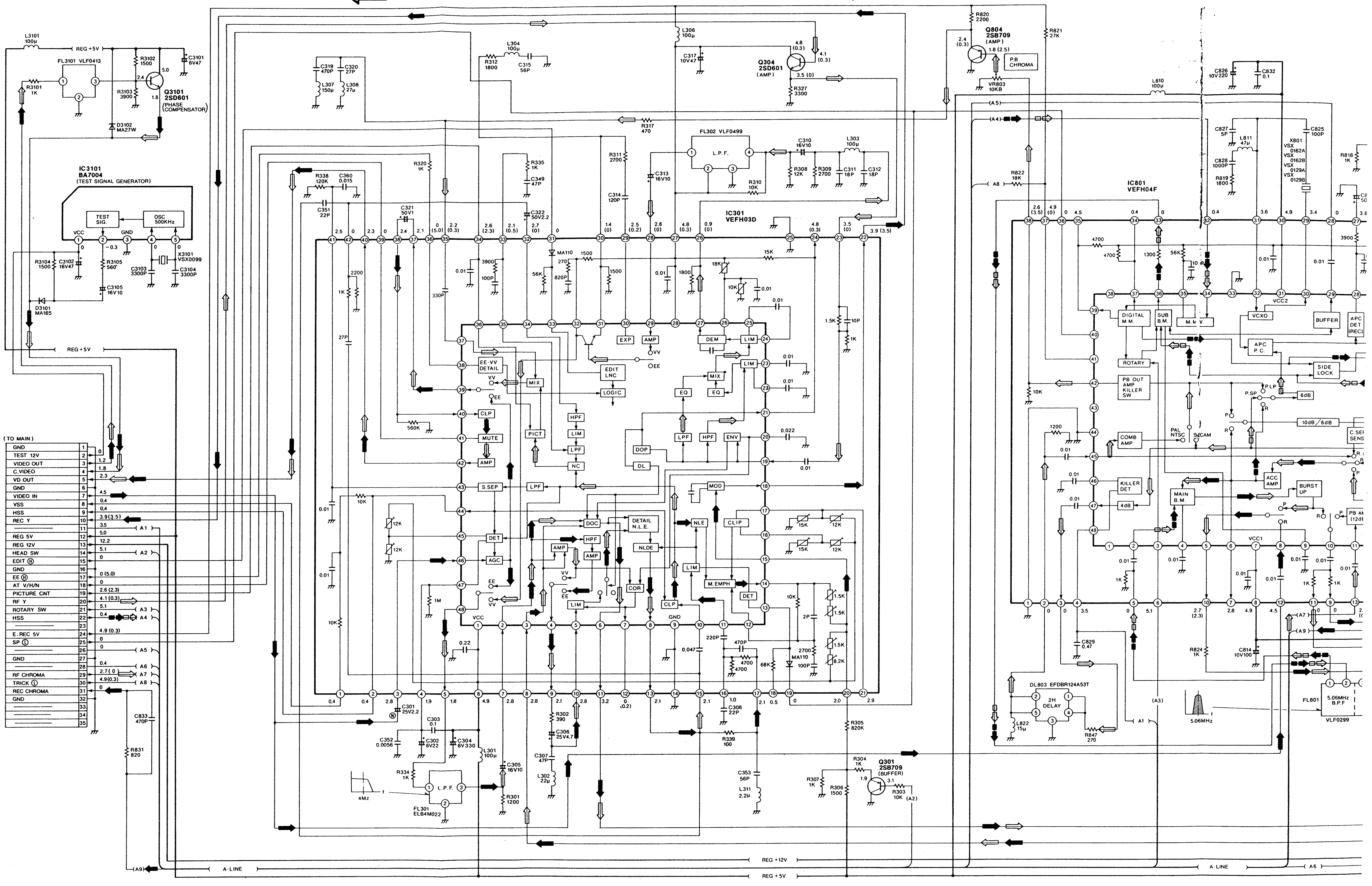
NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.


CYLINDER SERVO SPEED LOOP
CYLINDER SERVO PHASE LOOP
IC2001 MN6740VCTK
ENV.SW
TST
POS.SW.B
POS.SW.A
CAS SW
NOR/SRV/TST
REM PS
S TAB
SP(MOD)
DEW
RESET
OSC2
OSC1
POWER ON Ⓛ
X7 Ⓗ
VTR Ⓗ
C/T Ⓛ
GND
SENSOR LED Ⓛ
NTSC OUT Ⓛ
MOTOR V
S.VM
SOLENOIDE Ⓛ
A EE Ⓗ
V EE Ⓛ
A MUTE Ⓗ
PRE ROLL
EDIT TRG
A.TRK Ⓗ
S.DATA
S.CLOCK
R/S/F.
CURLIM
HEAD.SW
TRICK Ⓛ
TP2001
(NV-J30BI ONLY)
Q6001 2SD893 (SOLENOIDE DRIVE)
QR6002 UN2119 (SOLENOIDE Ⓛ·ON)
Q6002 2SD1994 (SOLENOIDE DRIVE)
Q6003 2SD1994 (SOLENOIDE DRIVE)
D6005 ERA15·01 or 11ES1
IC6003 MN12821·R
OUTPUT CIRCUIT
POWER VOLTAGE DET
Q6011 MSB709 (SENSOR LED Ⓛ·ON)
QR6013 MRN2404 (MUTING)
F·LINE
E·LINE
C·LINE
(N.SW 5V)
IC6002 LM393PS
TP2098
(NV-J4BA ONLY)
QR6003 MRN2404 (SENSOR LED Ⓛ·ON)
Q6004 2SD1992 (SENSOR LED DRIVE)
Q6006 2SB1321 (S TAB Ⓛ·ON)
Q6007 MSB710 (D REC 12V)
QR6004 MRN1404 (D REC Ⓗ·ON)
Q2002 2SD1996 (REG 5V)
L2003 100μ
QR6007 MRN1403 (MOTOR V Ⓗ·ON)
QR6012 MRN1403 (X7 Ⓗ·ON)
QR6011 MRN1403 (S.VM Ⓗ·ON)
Q6010 2SD1991A (VOLTAGE STABILIZER)
Q6008 2SD1273 (VOLTAGE STABILIZER)
F6001 VSF0077
VR2010 200KB
ART.V SP
+5V
+12V
P1508
T.PHOTO TR
S.PHOTO TR
CASSETTE SW
GND
Q1502 PN150NVS
CASSETTE SW MOVING CONTACT
PHOTO TR.(T) C.B.A.
P1507
S.PHOTO
Q1501 PN150NVS
PHOTO TR.(S) C.B.A. (VEK3578)
MODE SW
P6002
P6001
POS SW B
POS SW A
DEW SENSOR
PHOTO COUPLER +B
REEL PLS (T)
REEL PLS (S)
SAFETY TAB Ⓛ
SOLENOID ⊕
LED GND
SOLENOID ⊖
SENSOR LED
P1504
P1505
MECHANISM CONNECTION C.B.A. (VXA3820)
IC1501 DN2170
TO POWER SUPPLY
REG. 5V
REG. 12V
PW. OFF Ⓗ
MT GND
N. SW 5.3V
REG. 45V
U. REG. 14V
CYL GND
TP2001 REC/PLAY
5.0Vp-p 25Hz
TP2002 REC/PLAY
5.0Vp-p 25Hz
TO CHANNEL SELECT
SY. S. CLOCK
SY. S. DATA
ATR. OFF. Ⓛ
M. REG. 12V
A. TRK. Ⓗ
TO AUDIO
D. A. REC
A.EE. Ⓗ
A SP
S TAB 12V
TO LUMINANCE & CHROMINANCE
D.REC 12V
SP Ⓗ
C/T Ⓛ
(NV-J4BA ONLY)
DEW SENSOR
D1501 LN59
SOLENOID
SAFETY TAB SW
PK6101
OSC 1
N. SW. 5V
L6101 100μ
Q6101 2SC2206 (OSC)
X6101 VSX0244
OSC PACK C.B.A. (VEP06583B)
11
12
13
14
15
16
17
18
19
20
21
22
23

3-8. SUB MAIN SCHEMATIC DIAGRAM

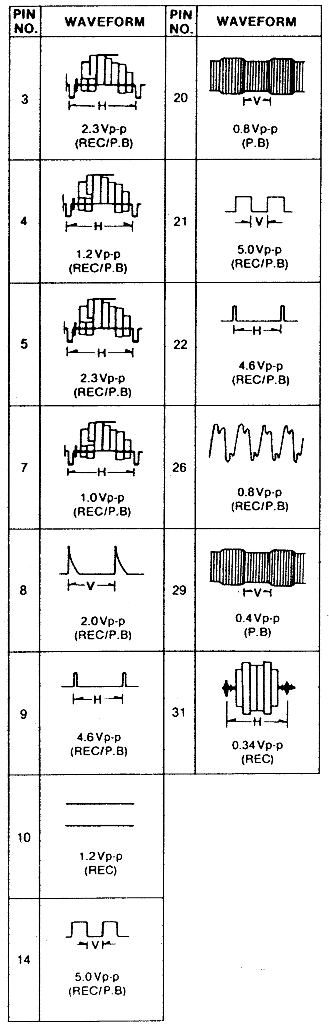
MAIN SIGNAL PATH IN REC MODE
MAIN SIGNAL PATH IN PLAYBACK MODE

5.06MHz PHASE ROTATIONAL SIGNAL IN REC MODE
5.06MHz PHASE ROTATIONAL SIGNAL IN PLAYBACK MO



IC3101
BA7004
(TEST SIGNAL GENERATOR)
TEST SIG.
OSC 500KHz
VCC
GND
Q3101
2SD601
(PHASE COMPENSATOR)
FL3101 VLF0413
X3101 VSX0099
D3101 MA165
D3102 MA27W
REG +5V
IC301
VEFH03D
IC801
VEFH04F
Q304
2SD601
(AMP)
Q804
2SB709
(AMP)
P.B CHROMA
Q301
2SB709
(BUFFER)
FL302 VLF0499
L.P.F.
FL301 ELB4M022
4Mz
DL803 EFDBR124A53T
2H DELAY
FL801
5.06MHz B.P.F
VLF0299
5.06MHz
EE·VV DETAIL
MIX
CLP
MUTE
AMP
S.SEP
LPF
PICT
HPF
LIM
NC
EDIT LNC
LOGIC
EXP
DEM
EQ
DOP
DL
ENV
MOD
DOC
DETAIL N.L.E.
NLDE
NLE
CLIP
DET
AGC
COR
M.EMPH
GND
VCC
DIGITAL M.M.
SUB B.M.
M.M.V
VCXO
BUFFER
APC DET (REC)
APC P.C.
SIDE LOCK
ROTARY
PB OUT AMP KILLER SW
COMB AMP
KILLER DET
4dB
MAIN B.M.
ACC AMP
BURST UP
6dB
10dB/6dB
PAL NTSC
SECAM
VCC1
VCC2
(TO MAIN)
GND 1 — 0
TEST 12V 2 — 1.2
VIDEO OUT 3 — 1.8
C.VIDEO 4 — 2.3
VD OUT 5
GND 6
VIDEO IN 7 — 4.5
VSS 8 — 0.4
HSS 9 — 0.4
REC Y 10 — 3.9 (3.5)
11 — 3.5 (A1)
REG 5V 12 — 5.0
REG 12V 13 — 12.2
HEAD SW 14 — 5.1 (A2)
EDIT Ⓗ 15 — 0
GND 16
EE Ⓗ 17 — 0 (5.0)
AT V/H/N 18 — 0
PICTURE CNT 19 — 2.6 (2.3)
RF Y 20 — 4.1 (0.3)
ROTARY SW 21 — 5.1 (A3)
HSS 22 — 0.4 (A4)
23
E.REC 5V 24 — 4.9 (0.3)
SP Ⓛ 25 — 0
26 — 0 (A5)
GND 27
28 — 0.4 (A6)
RF CHROMA 29 — 2.7 (0) (A7)
TRICK Ⓛ 30 — 4.9 (0.3) (A8)
REC CHROMA 31 — 0
GND 32
33
34
35
C833 470P
R831 820
(A9)
A-LINE
REG +12V
REG +5V

WAVEFORM OF SUB MAIN C.B.A. PINS



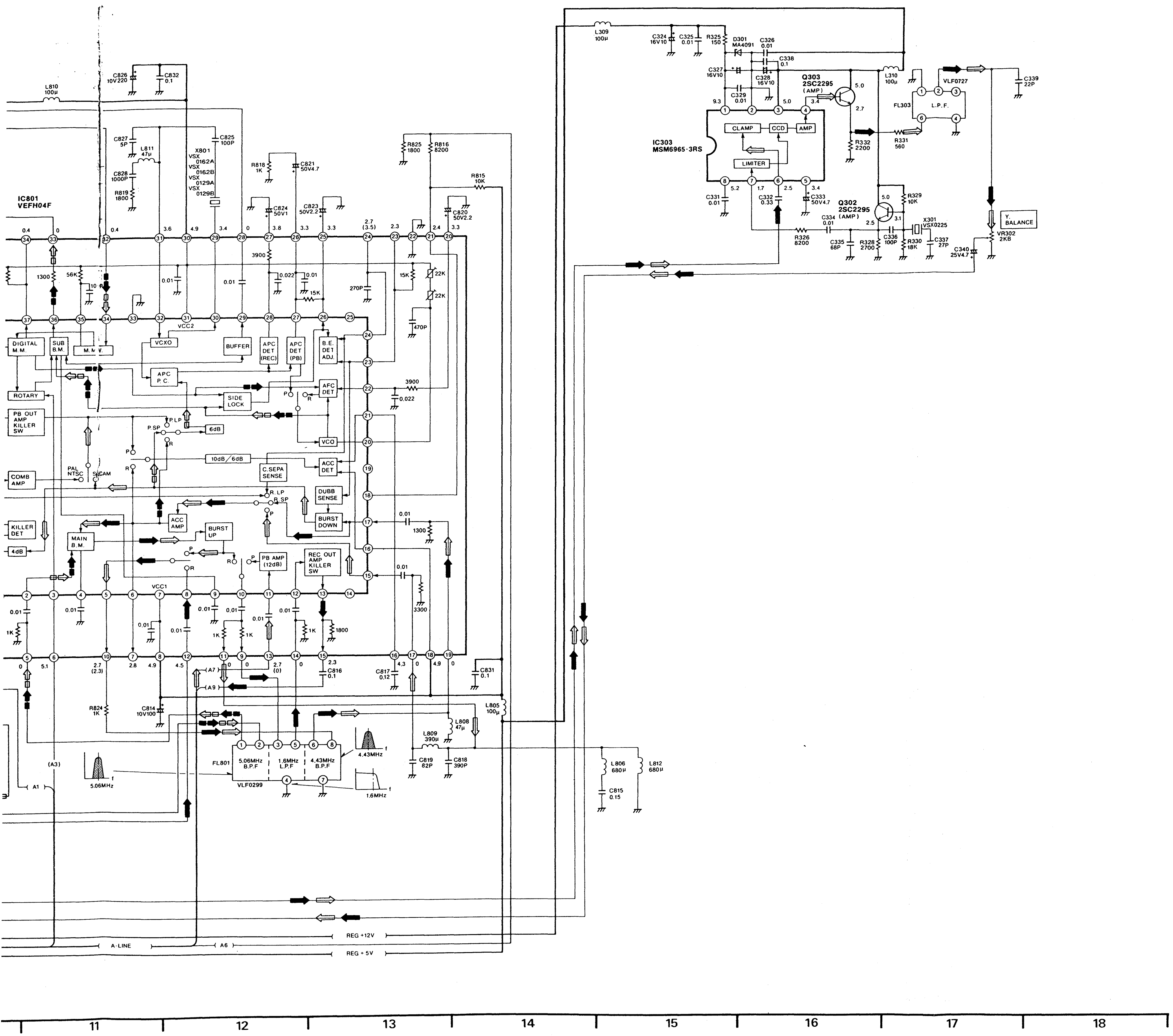
PIN NO.	WAVEFORM	PIN NO.	WAVEFORM
3	2.3Vp-p (REC/P.B)	20	0.8Vp-p (P.B)
4	1.2Vp-p (REC/P.B)	21	5.0Vp-p (REC/P.B)
5	2.3Vp-p (REC/P.B)	22	4.6Vp-p (REC/P.B)
7	1.0Vp-p (REC/P.B)	26	0.8Vp-p (REC/P.B)
8	2.0Vp-p (REC/P.B)	29	0.4Vp-p (P.B)
9	4.6Vp-p (REC/P.B)	31	0.34Vp-p (REC)
10	1.2Vp-p (REC)		
14	5.0Vp-p (REC/P.B)		

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

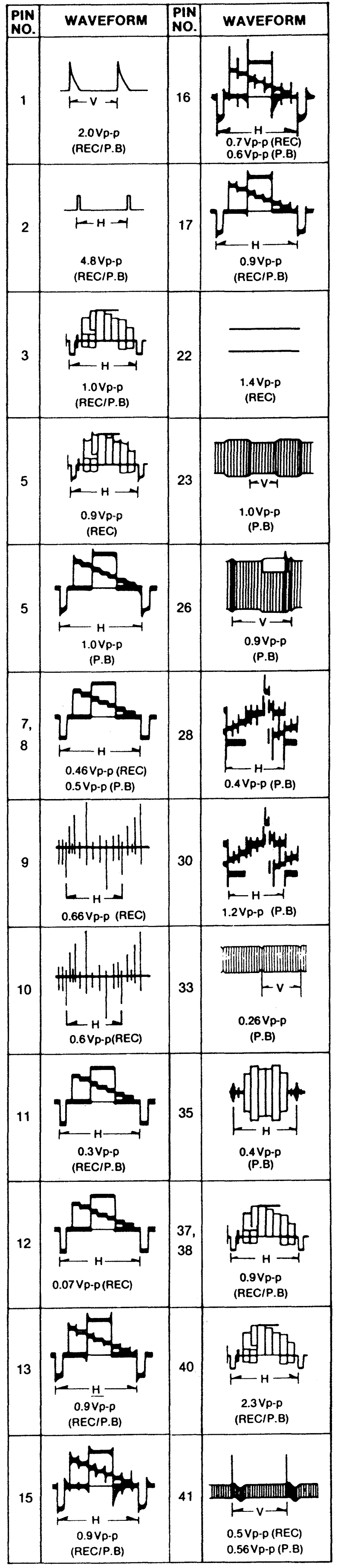
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE WITH PAL COLOUR SIGNAL.
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL.

Back Page:
SYSTEM CONTROL & SERVO Section

AL SIGNAL IN REC MODE
AL SIGNAL IN PLAYBACK MODE

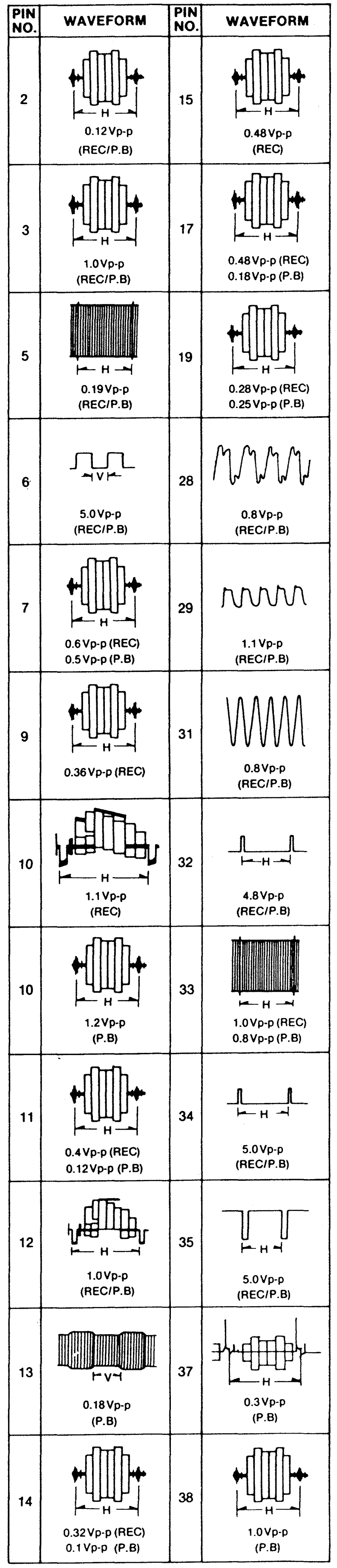

IC801
VEFH04F
IC303
MSM6965-3RS
Q303
2SC2295
(AMP)
Q302
2SC2295
(AMP)
CLAMP
CCD
AMP
LIMITER
FL303
L.P.F.
VLF0727
Y.
BALANCE
VR302
2KB
X301
VSX0225
X801
VSX
0162A
VSX
0162B
VSX
0129A
VSX
0129B
D301
MA4091
DIGITAL
M.M.
SUB
B.M.
M.M.V.
ROTARY
PB OUT
AMP
KILLER
SW
COMB
AMP
KILLER
DET
4dB
VCXO
BUFFER
APC
DET
(REC)
APC
DET
(PB)
B.E.
DET
ADJ.
APC
P.C
SIDE
LOCK
AFC
DET
6dB
VCO
10dB/6dB
ACC
DET
C.SEPA
SENSE
DUBB
SENSE
ACC
AMP
BURST
UP
BURST
DOWN
MAIN
B.M.
PB AMP
(12dB)
REC OUT
AMP
KILLER
SW
PAL
NTSC
SECAM
VCC1
VCC2
FL801
5.06MHz
B.P.F
1.6MHz
L.P.F
4.43MHz
B.P.F
VLF0299
5.06MHz
4.43MHz
1.6MHz
A-LINE
A6
A1
A3
A7
A9
REG +12V
REG + 5V
L810
100µ
L811
47µ
L309
100µ
L310
100µ
L805
100µ
L808
47µ
L809
390µ
L806
680µ
L812
680µ
C815
0.15
R815
10K
R816
8200
R825
1800
11
12
13
14
15
16
17
18

IC301 (VEFH03D)



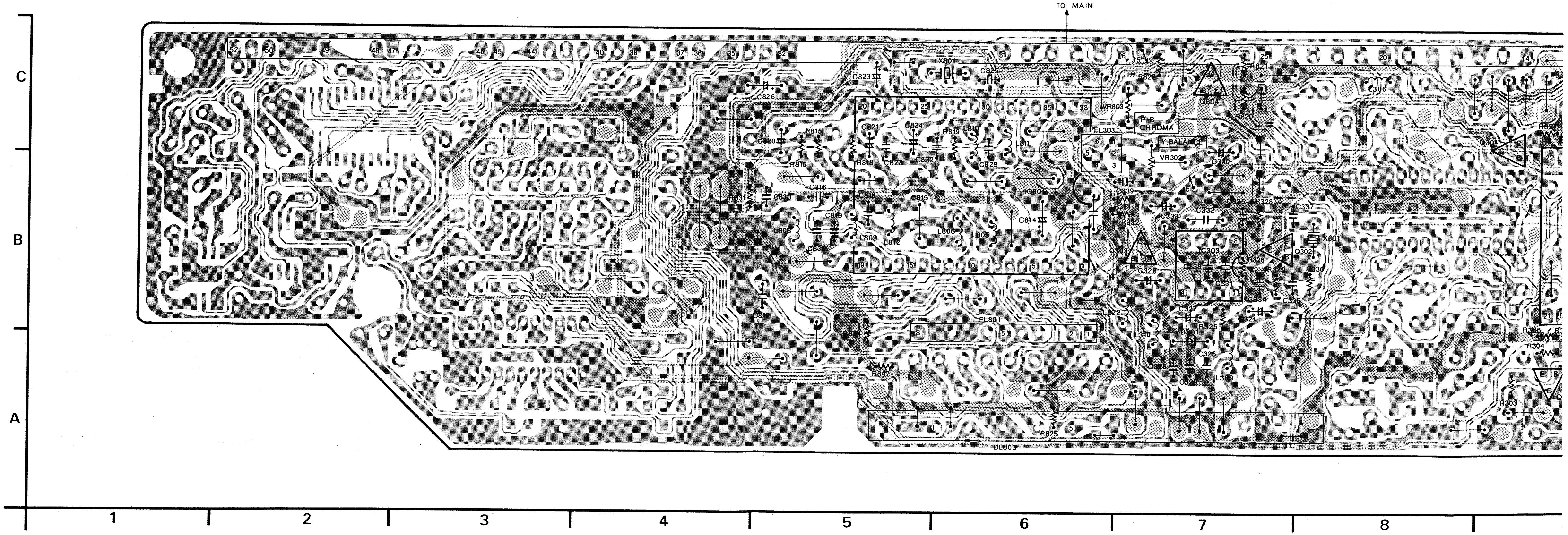
PIN NO.	WAVEFORM	PIN NO.	WAVEFORM
1	2.0Vp-p (REC/P.B)	16	0.7Vp-p (REC) 0.6Vp-p (P.B)
2	4.8Vp-p (REC/P.B)	17	0.9Vp-p (REC/P.B)
3	1.0Vp-p (REC/P.B)	22	1.4Vp-p (REC)
5	0.9Vp-p (REC)	23	1.0Vp-p (P.B)
5	1.0Vp-p (P.B)	26	0.9Vp-p (P.B)
7, 8	0.46Vp-p (REC) 0.5Vp-p (P.B)	28	0.4Vp-p (P.B)
9	0.66Vp-p (REC)	30	1.2Vp-p (P.B)
10	0.6Vp-p(REC)	33	0.26Vp-p (P.B)
11	0.3Vp-p (REC/P.B)	35	0.4Vp-p (P.B)
12	0.07Vp-p(REC)	37, 38	0.9Vp-p (REC/P.B)
13	0.9Vp-p (REC/P.B)	40	2.3Vp-p (REC/P.B)
15	0.9Vp-p (REC/P.B)	41	0.5Vp-p (REC) 0.56Vp-p (P.B)

IC801 (VEFH04F)



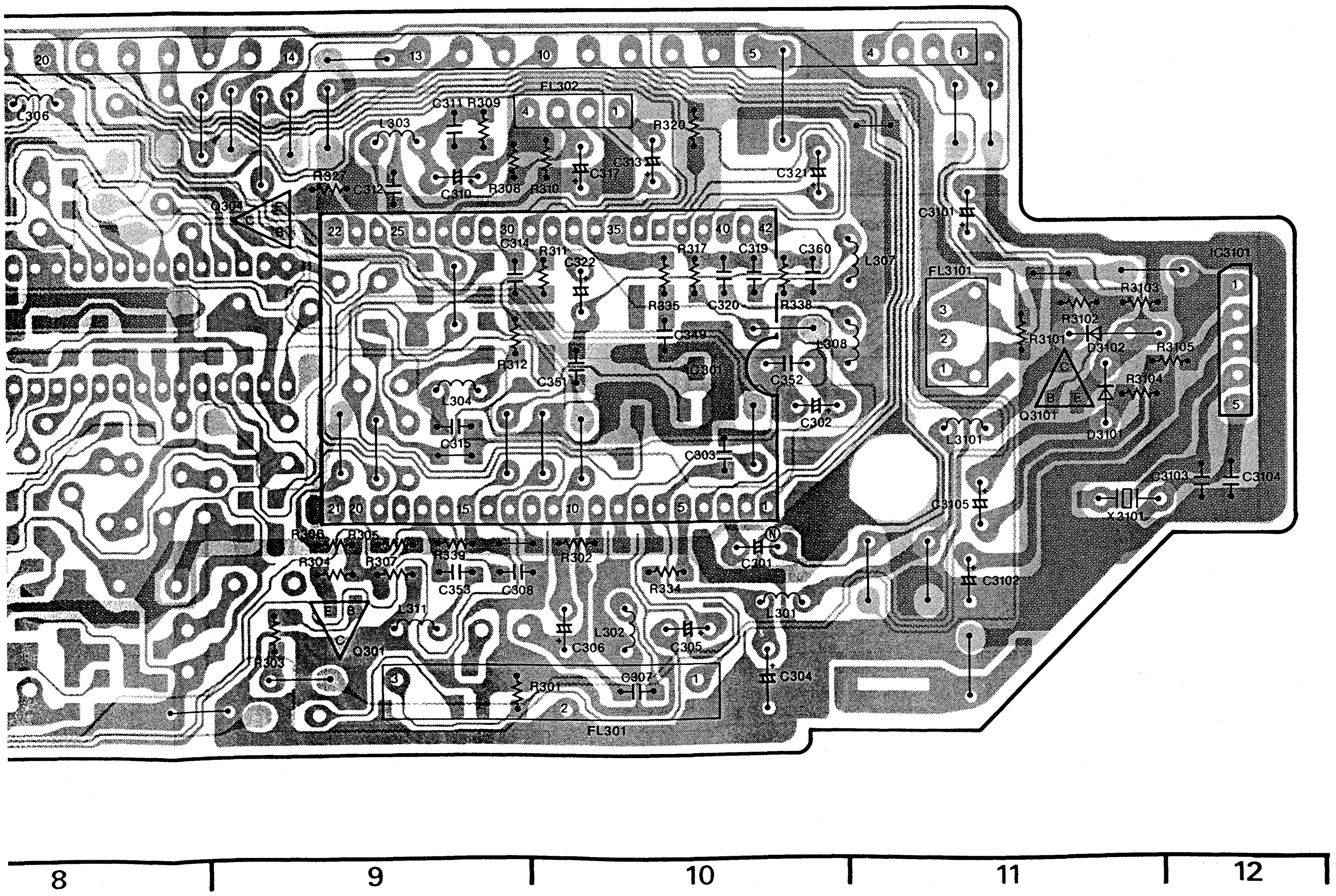
PIN NO.	WAVEFORM	PIN NO.	WAVEFORM
2	0.12Vp-p (REC/P.B)	15	0.48Vp-p (REC)
3	1.0Vp-p (REC/P.B)	17	0.48Vp-p (REC) 0.18Vp-p (P.B)
5	0.19Vp-p (REC/P.B)	19	0.28Vp-p (REC) 0.25Vp-p (P.B)
6	5.0Vp-p (REC/P.B)	28	0.8Vp-p (REC/P.B)
7	0.6Vp-p (REC) 0.5Vp-p (P.B)	29	1.1Vp-p (REC/P.B)
9	0.36Vp-p (REC)	31	0.8Vp-p (REC/P.B)
10	1.1Vp-p (REC)	32	4.8Vp-p (REC/P.B)
10	1.2Vp-p (P.B)	33	1.0Vp-p (REC) 0.8Vp-p (P.B)
11	0.4Vp-p (REC) 0.12Vp-p (P.B)	34	5.0Vp-p (REC/P.B)
12	1.0Vp-p (REC/P.B)	35	5.0Vp-p (REC/P.B)
13	0.18Vp-p (P.B)	37	0.3Vp-p (P.B)
14	0.32Vp-p (REC) 0.1Vp-p (P.B)	38	1.0Vp-p (P.B)

3-9. SUB MAIN C.B.A. (VEP03765E)


TO MAIN
C
B
A
1
2
3
4
5
6
7
8
52
50
49
48
47
46
45
44
40
38
37
36
35
32
31
26
25
20
14
22
21
C826
C823
X801
C825
C820
R815
R816
C821
C824
C827
C832
R819
L810
L811
C828
R818
R831
C833
C816
C818
C815
IC801
C814
L808
C819
C831
L809
L812
L806
L805
19
15
10
5
1
C817
FL801
8
5
2
1
R824
R847
DL803
R825
R822
VR803
P.B CHROMA
FL303
6
1
5
2
4
3
Y BALANCE
VR302
Q804
R821
R820
C340
C339
R331
R332
C329
C335
C333
C332
R328
C337
Q303
IC303
C338
C331
R326
Q302
X301
R329
R330
C328
L822
C327
C334
C336
C324
R325
L310
D301
C325
C326
C329
L309
L306
C304
R327
R306
R304
R303

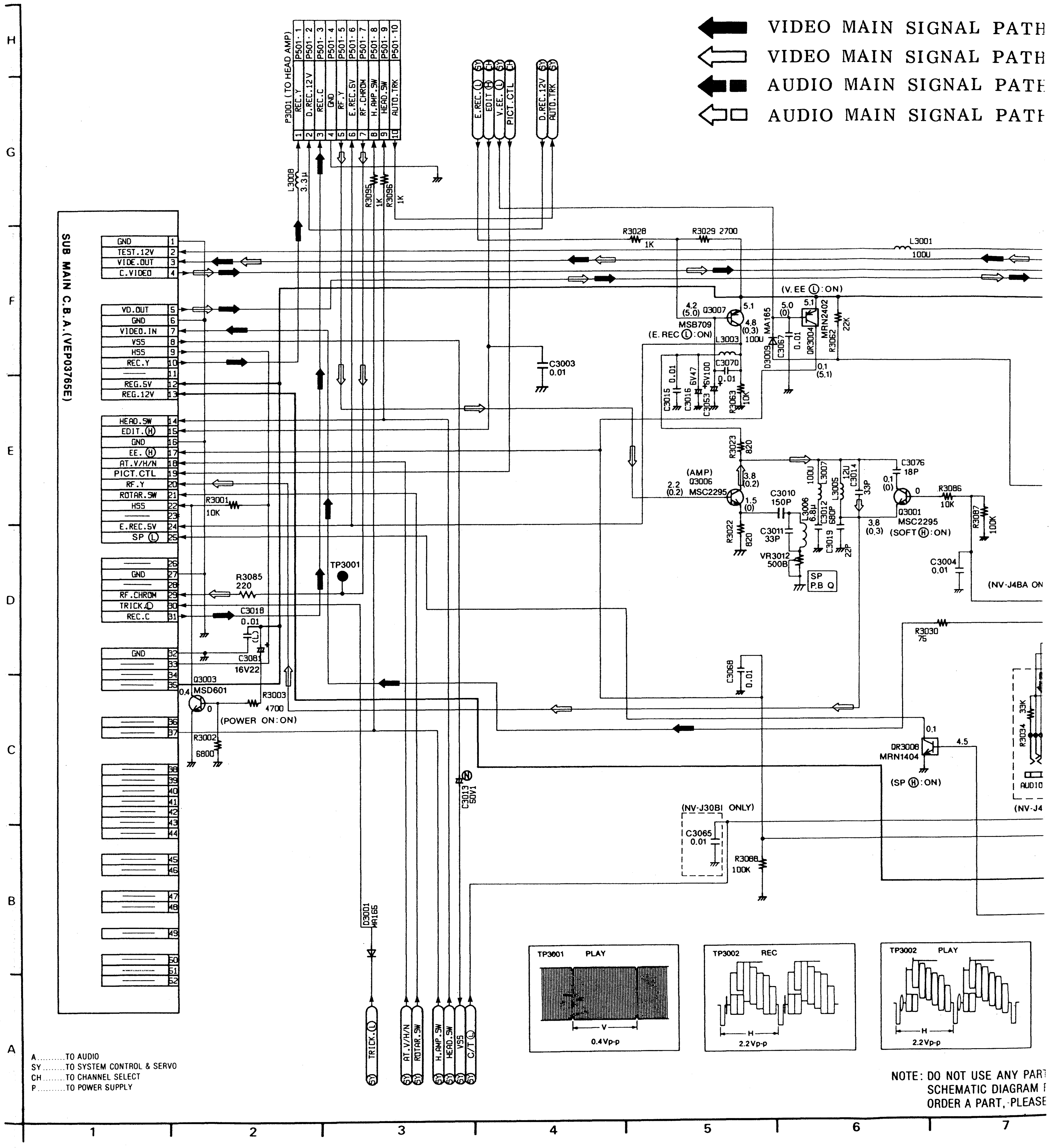
SUB MAIN C.B.A.			
Transistor		IC303	B-7
Q301	A-9	IC801	B-6
Q302	B-7	IC3101	B-10
Q303	B-7	**Adjustment**	
Q304	C-9	VR302	C-7
Q804	C-7	VR803	C-7
Q3101	B-11		
Integrated Circuit			
IC301	B-10		

ADDRESS INFORMATION



FL302
FL301
FL3101
IC3101
Q301
Q303
Q304
Q3101
D3101
D3102
X3101
L3101
8
9
10
11
12

3-10. LUMINANCE & CHROMINANCE SCHEMATIC DIAGRAM



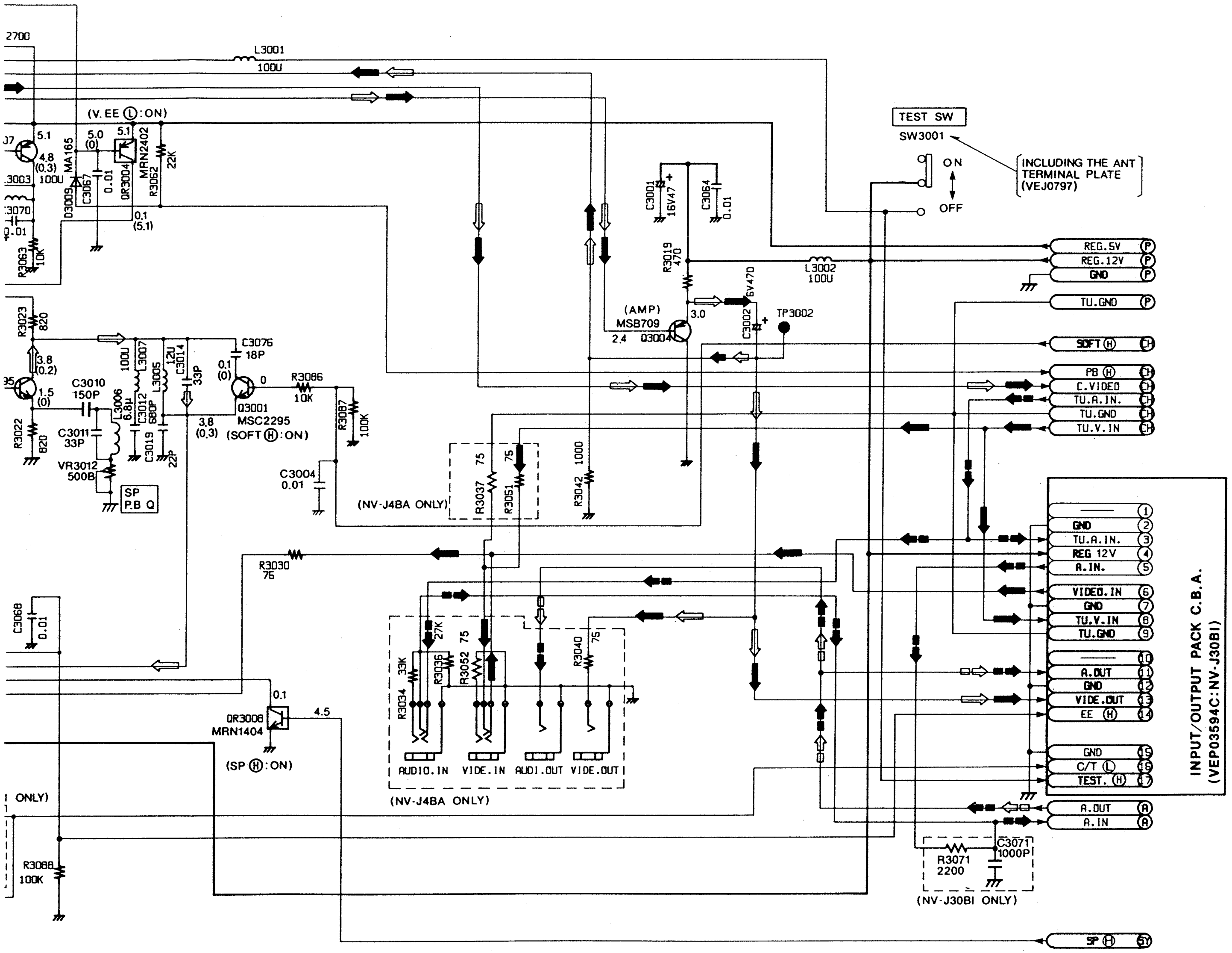
VIDEO MAIN SIGNAL PATH
VIDEO MAIN SIGNAL PATH
AUDIO MAIN SIGNAL PATH
AUDIO MAIN SIGNAL PATH
SUB MAIN C.B.A. (VEP03765E)
P3001 (TO HEAD AMP)
TP3001
Q3003 MSD601
(POWER ON:ON)
Q3007 MSB709
(E.REC Ⓛ:ON)
Q3006 MSC2295
Q3001 MSC2295
(SOFT Ⓗ:ON)
QR3008 MRN1404
(SP Ⓗ:ON)
(NV-J30BI ONLY)
VR3012 500B
TP3601 PLAY
0.4Vp-p
TP3002 REC
2.2Vp-p
TP3002 PLAY
2.2Vp-p
A.........TO AUDIO
SY........TO SYSTEM CONTROL & SERVO
CH........TO CHANNEL SELECT
P..........TO POWER SUPPLY
NOTE: DO NOT USE ANY PART
SCHEMATIC DIAGRAM
ORDER A PART, PLEASE
H
G
F
E
D
C
B
A
1
2
3
4
5
6
7

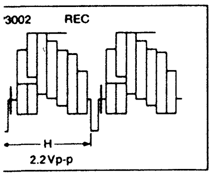
■ VIDEO MAIN SIGNAL PATH IN REC MODE

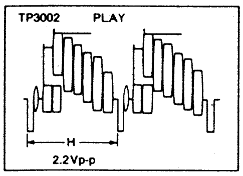
□ VIDEO MAIN SIGNAL PATH IN PLAYBACK MODE

■■ AUDIO MAIN SIGNAL PATH IN REC MODE

□□ AUDIO MAIN SIGNAL PATH IN PLAYBACK MODE


2700
L3001
100U
(V.EE Ⓛ:ON)
5.1
4.8
(0.3)
5.0
(0)
5.1
MA165
MRN2402
22K
R3062
QR3004
0.01
C3067
D3009
3003 100U
3070
.01
R3063
10K
0.1
(5.1)
R3023
820
3.8
(0.2)
1.5
(0)
C3010
150P
L3007
100U
L3005
12U
C3014
33P
L3006
6.8U
C3012
680P
C3019
22P
C3011
33P
VR3012
500B
SP
P.B Q
R3022
820
C3076
18P
0.1
(0)
0
R3086
10K
Q3001
MSC2295
3.8
(0.3)
(SOFT Ⓗ:ON)
R3087
100K
C3004
0.01
(NV-J4BA ONLY)
R3037
75
R3051
75
R3042
1000
R3030
75
C3068
0.01
TEST SW
SW3001
ON
OFF
INCLUDING THE ANT TERMINAL PLATE (VEJ0797)
C3001
16V47
C3064
0.01
R3019
470
L3002
100U
6V47D
(AMP)
MSB709
Q3004
3.0
2.4
C3002
TP3002
REG.5V Ⓟ
REG.12V Ⓟ
GND Ⓟ
TU.GND Ⓟ
SOFT Ⓗ CH
PB Ⓗ CH
C.VIDEO CH
TU.A.IN. CH
TU.GND CH
TU.V.IN CH
R3034
33K
R3035
27K
R3052
75
R3040
75
AUDIO.IN
VIDE.IN
AUDI.OUT
VIDE.OUT
(NV-J4BA ONLY)
0.1
4.5
QR3008
MRN1404
(SP Ⓗ:ON)
ONLY)
R3088
100K
① —
② GND
③ TU.A.IN.
④ REG 12V
⑤ A.IN.
⑥ VIDEO.IN
⑦ GND
⑧ TU.V.IN
⑨ TU.GND
⑩ —
⑪ A.OUT
⑫ GND
⑬ VIDE.OUT
⑭ EE Ⓗ
⑮ GND
⑯ C/T Ⓛ
⑰ TEST. Ⓗ
INPUT/OUTPUT PACK C.B.A.
(VEP03594C:NV-J30BI)
A.OUT Ⓐ
A.IN Ⓐ
C3071
1000P
R3071
2200
(NV-J30BI ONLY)
SP Ⓗ 6Y





NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE WITH PAL COLOUR SIGNAL. THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL.

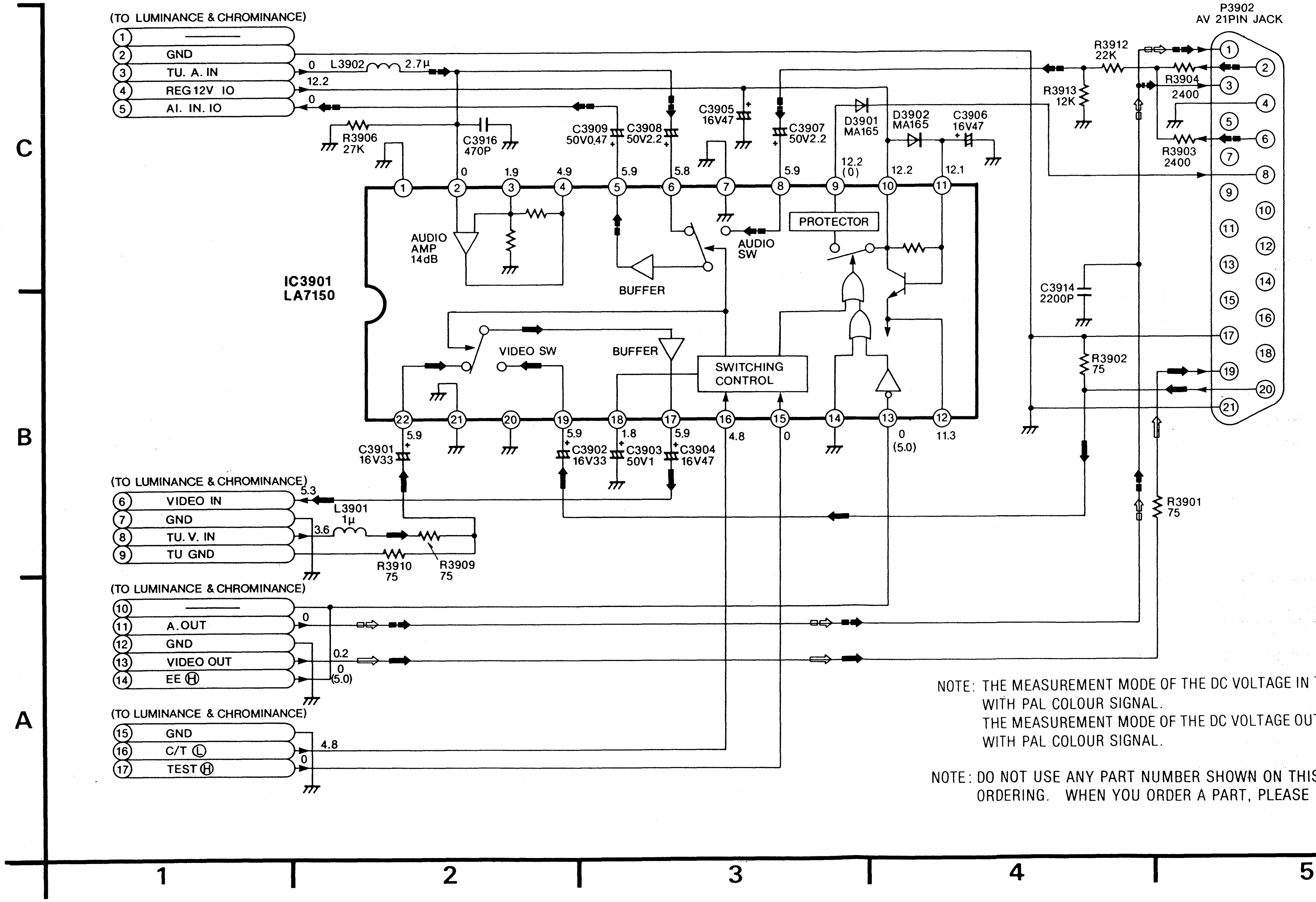
6 7 8 9 10 11

Next Page:
I/O PACK & HEAD AMP Section

3-11. INPUT/OUTPUT PACK SCHEMATIC DIAGRAM (NV-J30BI)

3-12. INPUT/OUTPUT

VIDEO MAIN SIGNAL PATH IN REC MODE
VIDEO MAIN SIGNAL PATH IN PLAYBACK MODE
AUDIO MAIN SIGNAL PATH IN REC MODE
AUDIO MAIN SIGNAL PATH IN PLAYBACK MODE

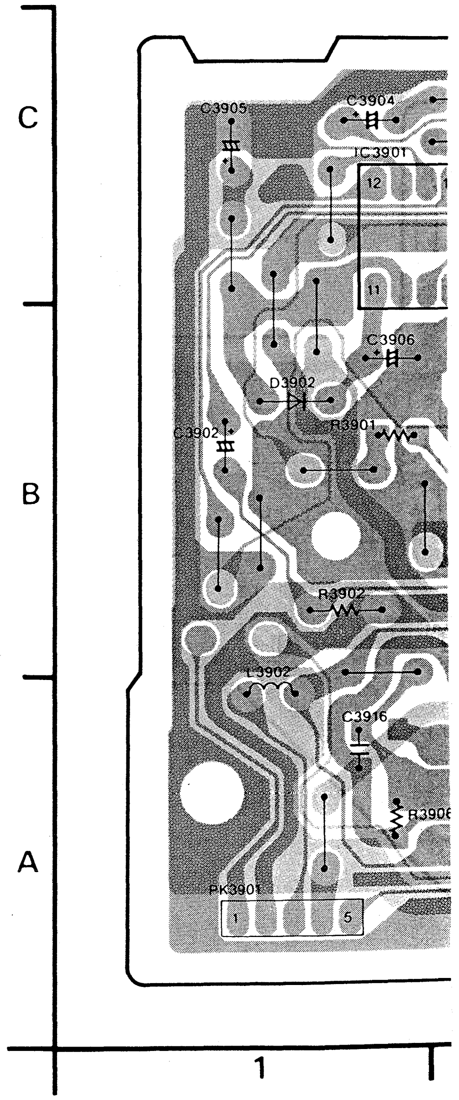


(TO LUMINANCE & CHROMINANCE)
1 ———
2 GND
3 TU. A. IN
4 REG 12V IO
5 AI. IN. IO
L3902 2.7µ
R3906 27K
C3916 470P
C3909 50V0.47
C3908 50V2.2
C3905 16V47
C3907 50V2.2
D3901 MA165
D3902 MA165
C3906 16V47
R3912 22K
R3913 12K
R3904 2400
R3903 2400
C3914 2200P
R3902 75
R3901 75
P3902 AV 21PIN JACK
IC3901 LA7150
AUDIO AMP 14dB
BUFFER
AUDIO SW
PROTECTOR
VIDEO SW
BUFFER
SWITCHING CONTROL
C3901 16V33
C3902 16V33
C3903 50V1
C3904 16V47
(TO LUMINANCE & CHROMINANCE)
6 VIDEO IN
7 GND
8 TU. V. IN
9 TU GND
L3901 1µ
R3910 75
R3909 75
(TO LUMINANCE & CHROMINANCE)
10 ———
11 A.OUT
12 GND
13 VIDEO OUT
14 EE Ⓗ
(TO LUMINANCE & CHROMINANCE)
15 GND
16 C/T Ⓛ
17 TEST Ⓗ
0
12.2
0
1.9
4.9
5.9
5.8
5.9
12.2 (0)
12.2
12.1
5.9
5.9
1.8
5.9
4.8
0
0 (5.0)
11.3
5.3
3.6
0
0.2
0 (5.0)
4.8
0
C
B
A
1
2
3
4
5
6

1	AUDIO OUT CH2
2	AUDIO IN CH2
3	AUDIO OUT CH1
4	AUDIO GND
5	———
6	AUDIO IN CH1
7	———
8	P.B +12V
9	———
10	———
11	———
12	———
13	———
14	———
15	———
16	———
17	GND
18	———
19	VIDEO OUT
20	VIDEO IN
21	GND

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE WITH PAL COLOUR SIGNAL.
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL.

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

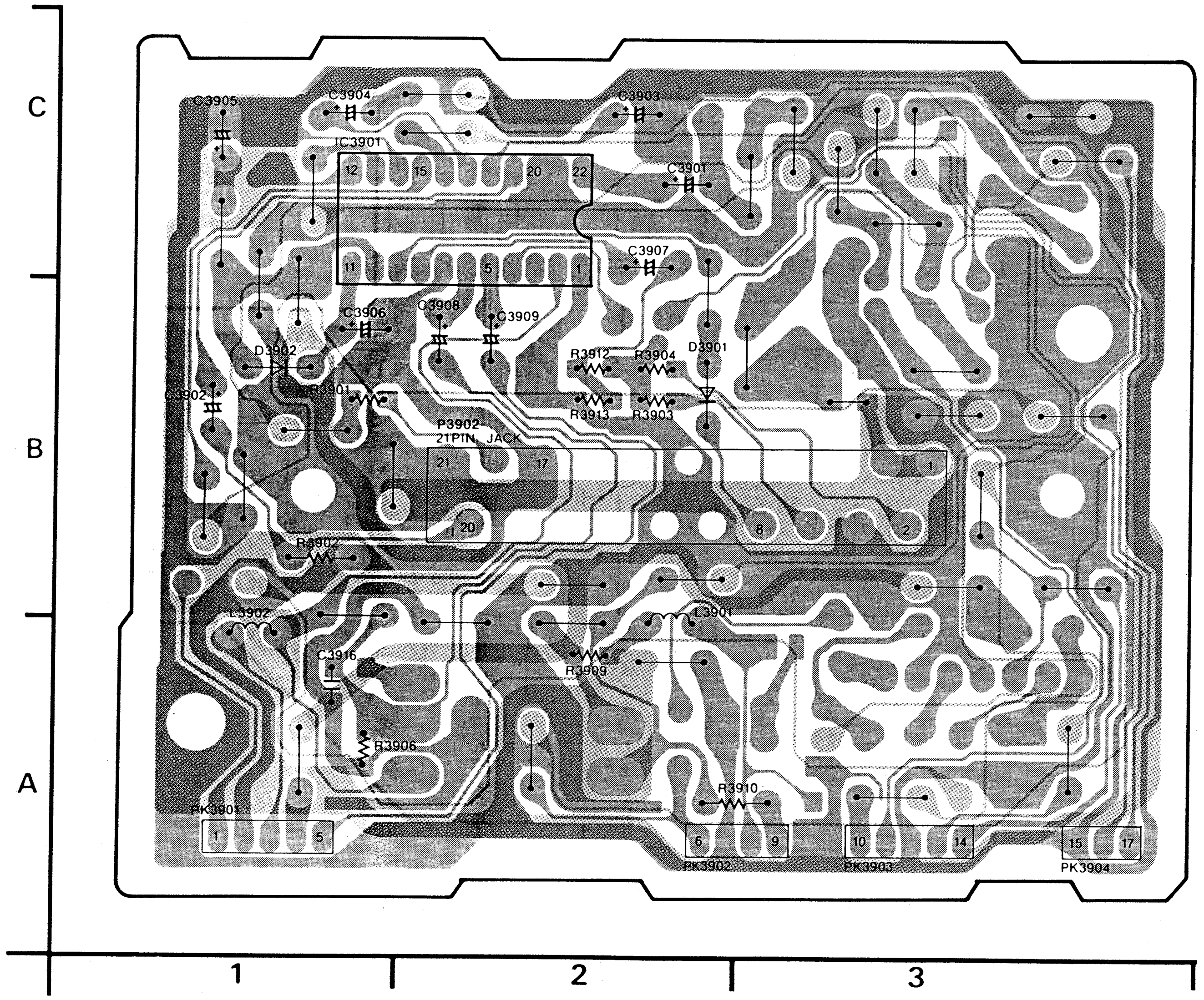


C
B
A
1
C3905
C3904
IC3901
12
11
C3906
D3902
R3901
C3902
R3902
L3902
C3916
R3906
PK3901
1
5

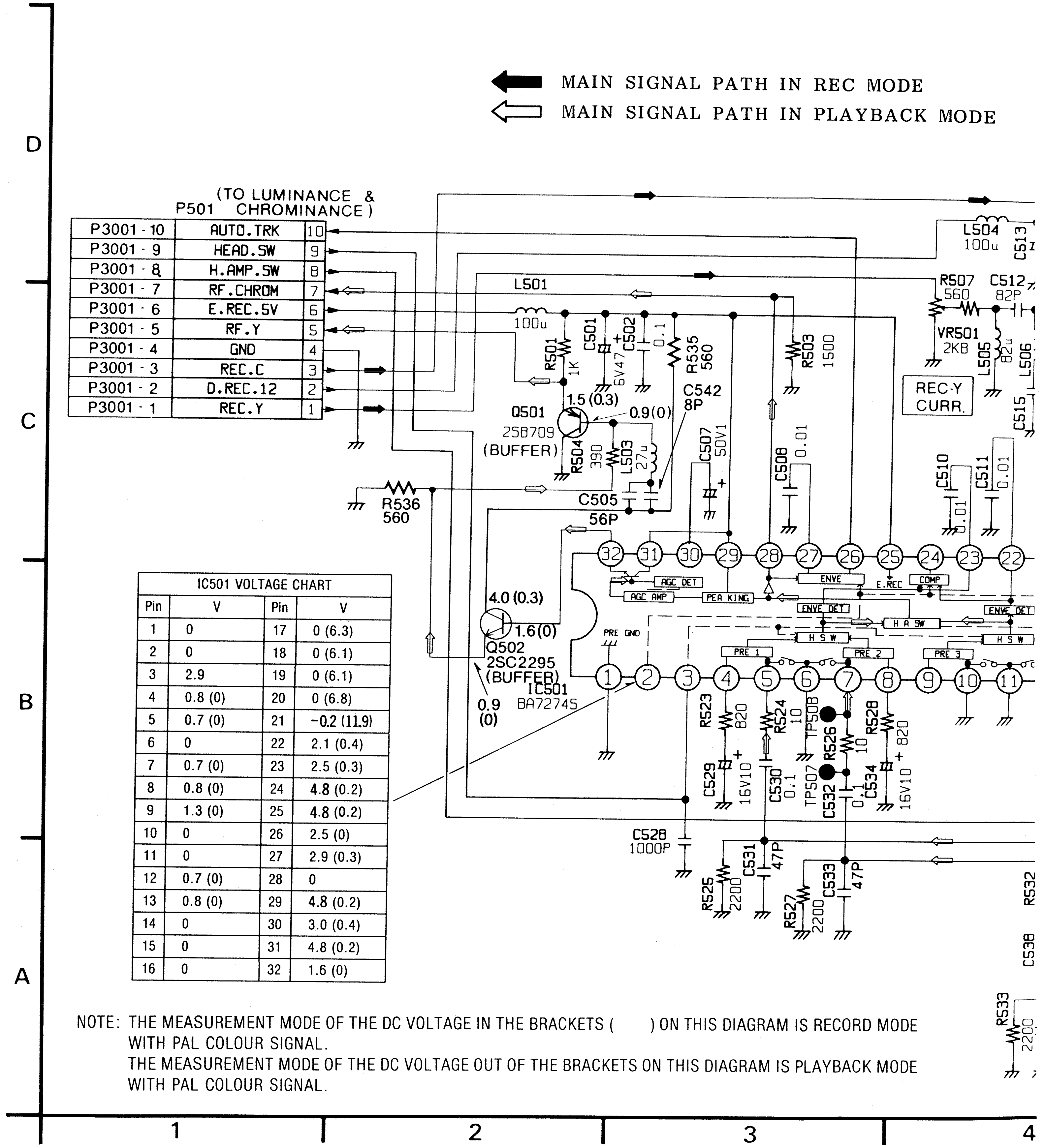
3-12. INPUT/OUTPUT PACK C.B.A. (VEP03594C: NV-J30BI)

INPUT/OUTPUT PACK C.B.A.	
Integrated Circuit	
IC3901	C-1
Connector	
P3902	B-2
PK3901	A-1
PK3902	A-2
PK3903	A-3
PK3904	A-3

ADDRESS INFORMATION


C
B
A
1
2
3
C3905
C3904
C3903
IC3901
12
15
20
22
11
5
1
C3901
C3907
C3906
Q3908
C3909
D3902
R3901
C3902
R3912
R3904
D3901
R3913
R3903
P3902
21PIN JACK
21
17
20
8
2
1
R3902
L3902
L3901
C3916
R3909
R3906
R3910
PK3901
1
5
6
9
PK3902
10
14
PK3903
15
17
PK3904

3-13. HEAD AMP SCHEMATIC DIAGRAM

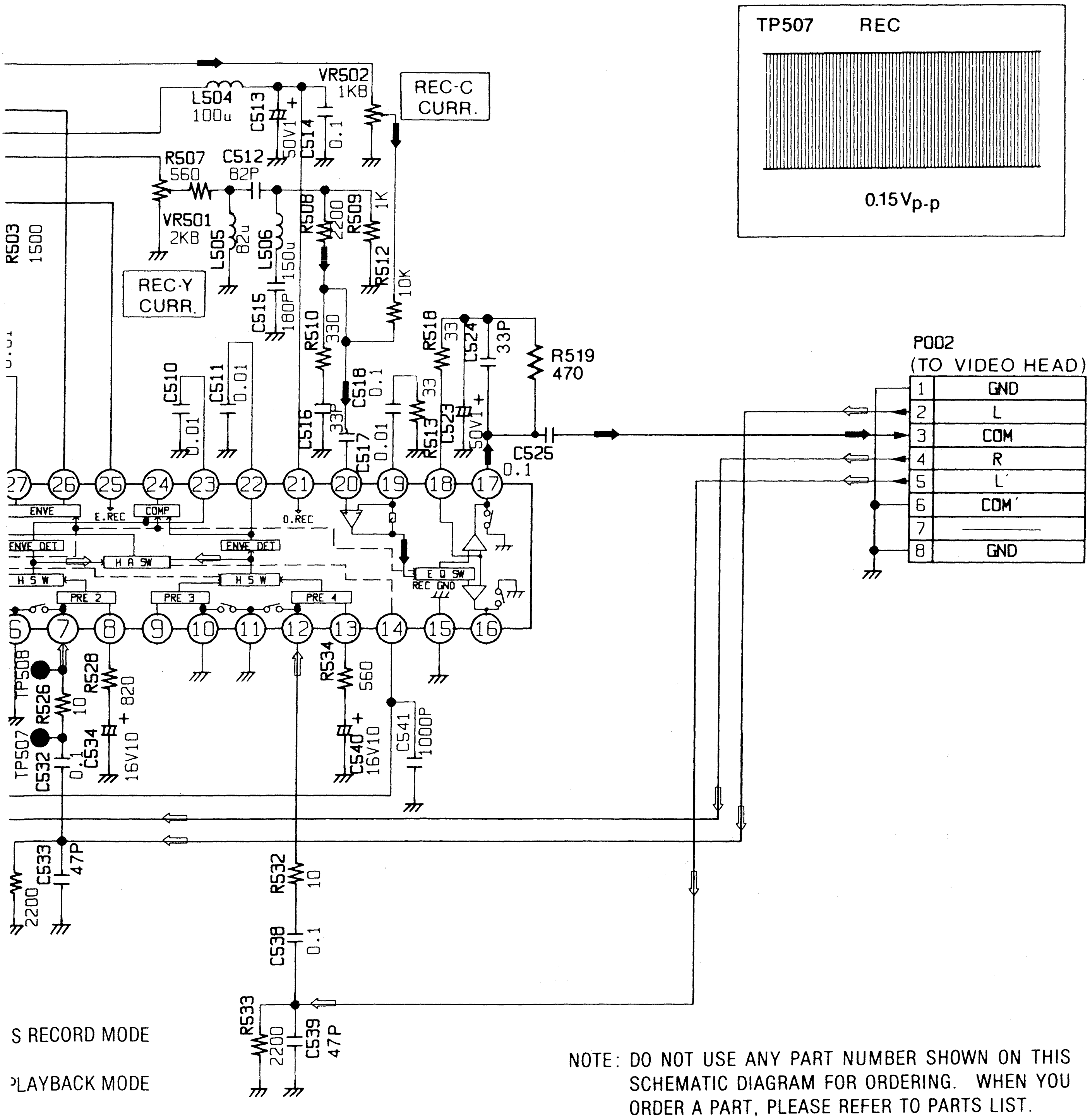

MAIN SIGNAL PATH IN REC MODE
MAIN SIGNAL PATH IN PLAYBACK MODE
D
C
B
A
1
2
3
4
(TO LUMINANCE & CHROMINANCE)
P501
P3001 · 10 AUTO.TRK 10
P3001 · 9 HEAD.SW 9
P3001 · 8 H.AMP.SW 8
P3001 · 7 RF.CHROM 7
P3001 · 6 E.REC.5V 6
P3001 · 5 RF.Y 5
P3001 · 4 GND 4
P3001 · 3 REC.C 3
P3001 · 2 D.REC.12 2
P3001 · 1 REC.Y 1
L501 100u
R501 1K
C501 6V47
C502 0.1
R535 560
R503 1500
L504 100u
C513
R507 560
C512 82P
VR501 2KB
L505 82u
L506
REC-Y CURR.
C515
Q501 2SB709 (BUFFER)
1.5 (0.3)
0.9(0)
C542 8P
R504 390
L503 27u
C507 50V1
C508 0.01
C510 0.01
C511 0.01
R536 560
C505 56P
4.0 (0.3)
1.6(0)
Q502 2SC2295 (BUFFER)
0.9 (0)
IC501 BA7274S
AGC DET
AGC AMP
PEA KING
ENVE
E.REC
COMP
ENVE DET
H A SW
H S W
PRE GND
PRE 1
PRE 2
PRE 3
R523 820
R524 10
TP508
R526 10
R528 820
C529 16V10
C530 0.1
TP507
C532 0.1
C534 16V10
C528 1000P
R525 2200
C531 47P
R527 2200
C533 47P
R532
C538
R533 2200

IC501 VOLTAGE CHART			
Pin	**V**	**Pin**	**V**
1	0	17	0 (6.3)
2	0	18	0 (6.1)
3	2.9	19	0 (6.1)
4	0.8 (0)	20	0 (6.8)
5	0.7 (0)	21	−0.2 (11.9)
6	0	22	2.1 (0.4)
7	0.7 (0)	23	2.5 (0.3)
8	0.8 (0)	24	4.8 (0.2)
9	1.3 (0)	25	4.8 (0.2)
10	0	26	2.5 (0)
11	0	27	2.9 (0.3)
12	0.7 (0)	28	0
13	0.8 (0)	29	4.8 (0.2)
14	0	30	3.0 (0.4)
15	0	31	4.8 (0.2)
16	0	32	1.6 (0)

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS (   ) ON THIS DIAGRAM IS RECORD MODE WITH PAL COLOUR SIGNAL.
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL.

REC MODE

PLAYBACK MODE


TP507 REC
0.15Vp-p
VR502 1KB
REC-C CURR.
L504 100u
C513 50V1
C514 0.1
R507 560
C512 82P
VR501 2KB
L505 82u
L506 150u
R508 2200
R509 1K
R512 10K
REC-Y CURR.
C515 180P
R503 1500
R510 330
C510 0.01
C511 0.01
C516 33P
C518 0.1
C517 0.01
R513 33
R518 33
C524 33P
C523 50V1
R519 470
C525 0.1
P002 (TO VIDEO HEAD)
1 GND
2 L
3 COM
4 R
5 L′
6 COM′
7 ———
8 GND
ENVE
E.REC
COMP
D.REC
ENVE DET
H A SW
H S W
PRE 2
PRE 3
PRE 4
E Q SW
REC GND
27 26 25 24 23 22 21 20 19 18 17
6 7 8 9 10 11 12 13 14 15 16
TP508
R526 10
R528 820
TP507
C532 0.1
C534 16V10
R534 560
C540 16V10
C541 1000P
C533 47P
2200
R532 10
C538 0.1
R533 2200
C539 47P
S RECORD MODE
PLAYBACK MODE

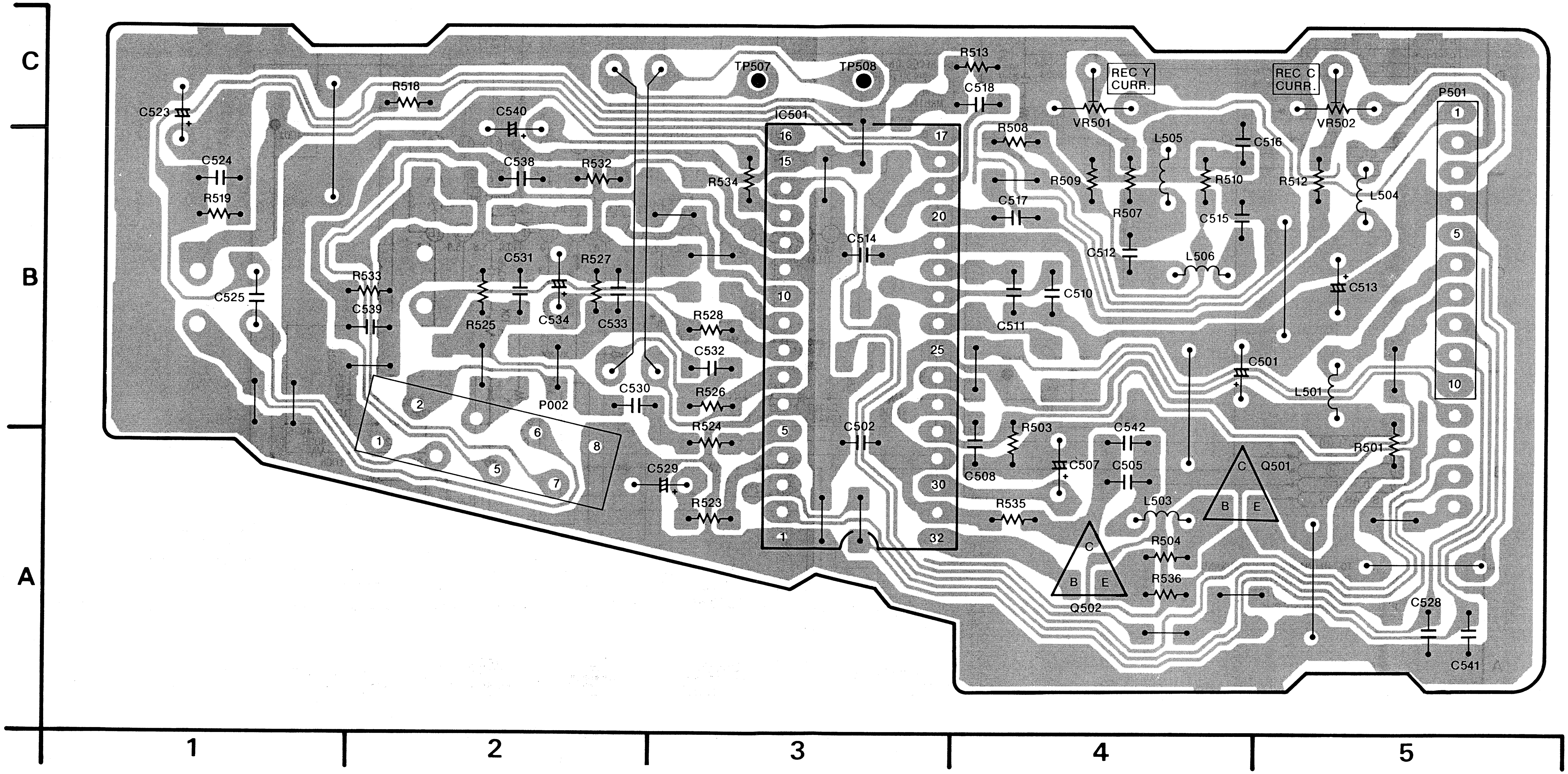
NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

4 5 6

3-14. HEAD AMP C.B.A (VEP05137B)

HEAD AMP C.B.A.			
Transistor		**Adjustment**	
Q501 Q502	A-5 A-4	VR501 VR502	C-4 C-5
Integrated Circuit		**Connector**	
IC501	C-3	P002 P501	B-2 C-5
Test Point			
TP507 TP508	C-3 C-3		

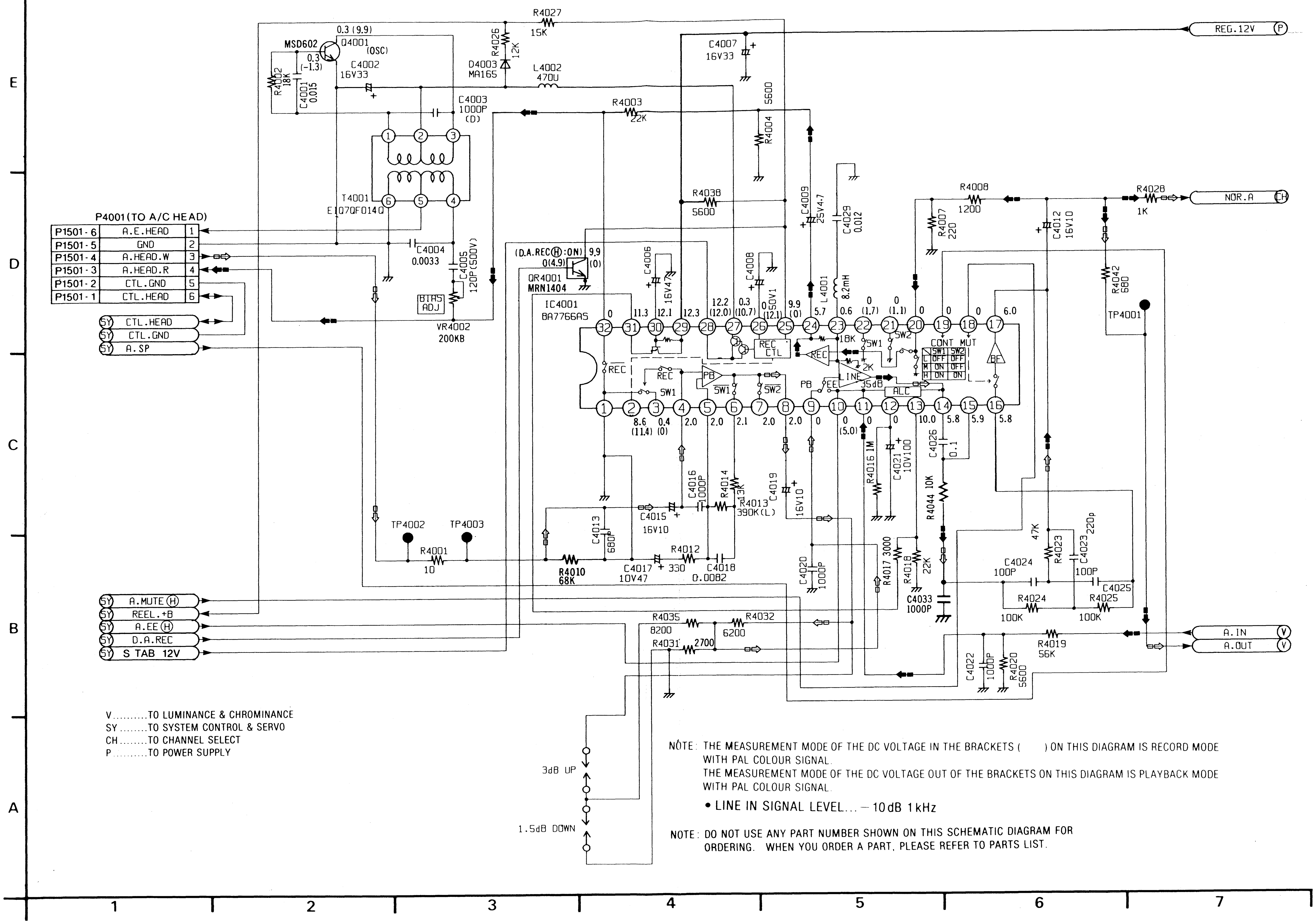
ADDRESS INFORMATION


C
B
A
1
2
3
4
5
C523
R518
C540
C524
C538
R532
R519
R534
TP507
TP508
IC501
16
15
17
20
10
25
5
30
1
32
R513
C518
R508
VR501
REC Y CURR.
REC C CURR.
VR502
P501
L505
C516
R509
R507
R510
R512
L504
C517
C514
C515
C512
L506
C525
R533
C531
R527
C539
R525
C534
C533
R528
C532
C511
C510
C513
C501
L501
P002
C530
R526
R524
C502
R503
C542
R501
C508
C507
C505
Q501
C529
R523
R535
L503
B
E
R504
R536
Q502
C528
C541
2
1
6
8
5
7

3-15. AUDIO SCHEMATIC DIAGRAM

◀■ MAIN SIGNAL PATH IN REC MODE

◁□ MAIN SIGNAL PATH IN PLAYBACK MODE



E
D
C
B
A
1
2
3
4
5
6
7
REG.12V (P)
NOR.A (CH)
A.IN (V)
A.OUT (V)
P4001 (TO A/C HEAD)
P1501-6 A.E.HEAD 1
P1501-5 GND 2
P1501-4 A.HEAD.W 3
P1501-3 A.HEAD.R 4
P1501-2 CTL.GND 5
P1501-1 CTL.HEAD 6
(SY) CTL.HEAD
(SY) CTL.GND
(SY) A.SP
(SY) A.MUTE (H)
(SY) REEL.+B
(SY) A.EE (H)
(SY) D.A.REC
(SY) S TAB 12V
MSD602
Q4001 (OSC)
0.3 (9.9)
0.3 (-1.3)
R4002 18K
C4001 0.015
C4002 16V33
R4026 12K
D4003 MA165
R4027 15K
L4002 470U
C4003 1000P (D)
R4003 22K
T4001 E1070F014Q
C4004 0.0033
C4005 120P (500V)
BIAS ADJ
VR4002 200KB
(D.A.REC(H):ON) 9.9
0(4.9) (0)
QR4001 MRN1404
IC4001 BA7766AS
C4007 16V33
R4004 5600
R4038 5600
C4006 16V47
C4008 50V1
C4009 25V4.7
C4029 0.012
L4001 8.2mH
R4008 1200
R4007 220
C4012 16V10
R4028 1K
R4042 680
TP4001
REC CTL
REC
PB
SW1
SW2
LINE
35dB
ALC
EE
CONT MUT
BF
18K
2K
C4016 1000P
R4014 13K
R4013 390K(L)
C4015 16V10
C4019 16V10
C4013 680P
R4010 68K
C4017 10V47
R4012 330
C4018 0.0082
TP4002
TP4003
R4001 10
R4016 1M
C4021 10V100
C4026 0.1
R4044 10K
R4017 3000
R4018 22K
C4020 1000P
C4033 1000P
C4024 100P
R4023 47K
C4023 220p 100P
C4025
R4024 100K
R4025 100K
R4019 56K
C4022 1000P
R4020 5600
R4035 8200
R4032 6200
R4031 2700
3dB UP
1.5dB DOWN

V..........TO LUMINANCE & CHROMINANCE
SY........TO SYSTEM CONTROL & SERVO
CH........TO CHANNEL SELECT
P..........TO POWER SUPPLY

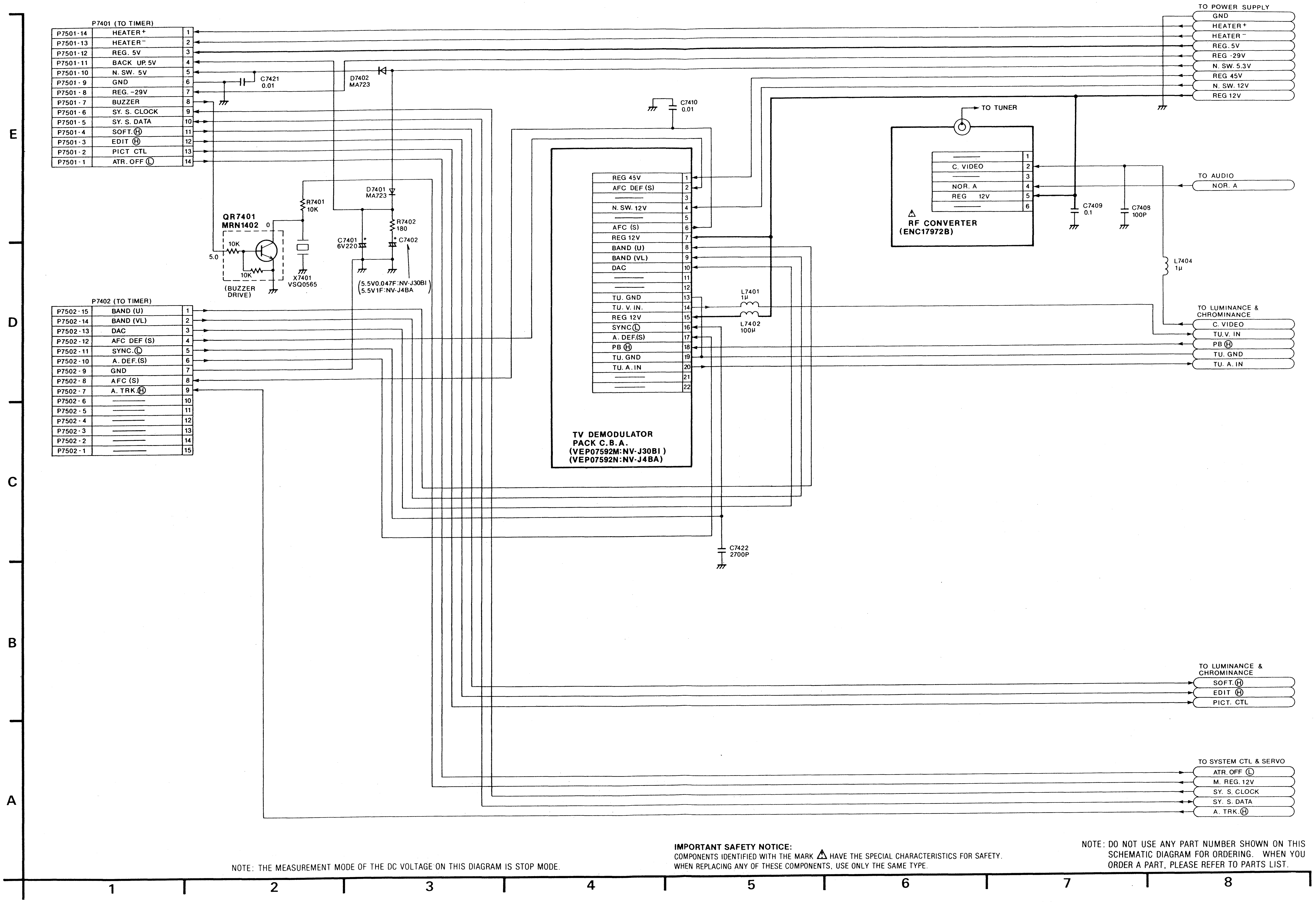
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE WITH PAL COLOUR SIGNAL.
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL.

- LINE IN SIGNAL LEVEL... −10dB 1kHz

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

Back Page:
HEAD AMP Section

3-16. CHANNEL SELECT SCHEMATIC DIAGRAM


P7401 (TO TIMER)
P7501-14 HEATER+ 1
P7501-13 HEATER− 2
P7501-12 REG. 5V 3
P7501-11 BACK UP. 5V 4
P7501-10 N. SW. 5V 5
P7501-9 GND 6
P7501-8 REG. −29V 7
P7501-7 BUZZER 8
P7501-6 SY. S. CLOCK 9
P7501-5 SY. S. DATA 10
P7501-4 SOFT. Ⓗ 11
P7501-3 EDIT Ⓗ 12
P7501-2 PICT CTL 13
P7501-1 ATR. OFF Ⓛ 14
C7421
0.01
D7402
MA723
QR7401
MRN1402
0
10K
5.0
10K
(BUZZER DRIVE)
R7401
10K
X7401
VSQ0565
D7401
MA723
R7402
180
C7401
6V220
C7402
(5.5V0.047F:NV-J30BI
5.5V1F:NV-J4BA)
P7402 (TO TIMER)
P7502-15 BAND (U) 1
P7502-14 BAND (VL) 2
P7502-13 DAC 3
P7502-12 AFC DEF (S) 4
P7502-11 SYNC. Ⓛ 5
P7502-10 A. DEF. (S) 6
P7502-9 GND 7
P7502-8 AFC (S) 8
P7502-7 A. TRK. Ⓗ 9
P7502-6 10
P7502-5 11
P7502-4 12
P7502-3 13
P7502-2 14
P7502-1 15
C7410
0.01
REG 45V 1
AFC DEF (S) 2
3
N. SW. 12V 4
5
AFC (S) 6
REG 12V 7
BAND (U) 8
BAND (VL) 9
DAC 10
11
12
TU. GND 13
TU. V. IN. 14
REG 12V 15
SYNC Ⓛ 16
A. DEF.(S) 17
PB Ⓗ 18
TU. GND 19
TU. A. IN 20
21
22
TV DEMODULATOR
PACK C.B.A.
(VEP07592M:NV-J30BI)
(VEP07592N:NV-J4BA)
L7401
1μ
L7402
100μ
C7422
2700P
TO TUNER
1
C. VIDEO 2
3
NOR. A 4
REG 12V 5
6
⚠
RF CONVERTER
(ENC17972B)
C7409
0.1
C7408
100P
L7404
1μ
TO POWER SUPPLY
GND
HEATER+
HEATER−
REG. 5V
REG -29V
N. SW. 5.3V
REG 45V
N. SW. 12V
REG 12V
TO AUDIO
NOR. A
TO LUMINANCE & CHROMINANCE
C. VIDEO
TU.V. IN
PB Ⓗ
TU. GND
TU. A. IN
TO LUMINANCE & CHROMINANCE
SOFT. Ⓗ
EDIT Ⓗ
PICT. CTL
TO SYSTEM CTL & SERVO
ATR. OFF Ⓛ
M. REG. 12V
SY. S. CLOCK
SY. S. DATA
A. TRK. Ⓗ
E
D
C
B
A
1
2
3
4
5
6
7
8

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

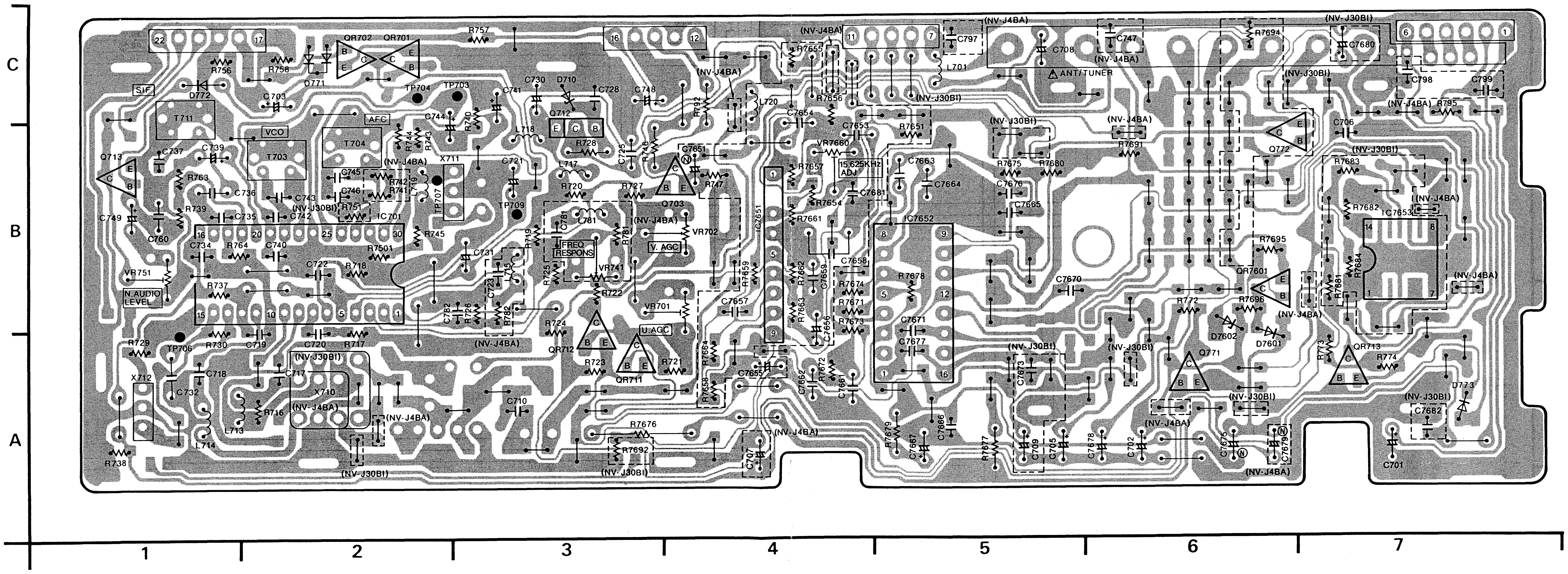
IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

3-17. TV DEMODULATOR PACK C.B.A. (VEP07592M: NV-J30BI) (VEP07592N: NV-J4BA)

TV DEMODULATOR PACK C.B.A.			
Transistor		**Test Point**	
Q703	B-4	TP703	C-3
Q712	B-3	TP704	C-2
Q713	B-1	TP706	A-1
Q771	B-6	TP707	B-2
Q772	A-6	TP709	B-3
Transistor & Resistor		**Adjustment**	
QR701	C-2	T703	B-2
QR702	C-2	T704	B-2
QR711	A-3	T711	C-1
QR712	A-3	VR701	B-4
QR713	A-7	VR702	B-4
QR7601	B-6	VR741	B-3
Integrated Circuit		VR751	B-1
IC701	B-2	VR7660	B-4
IC7651	B-4		
IC7652	B-5		
IC7653	A-7		

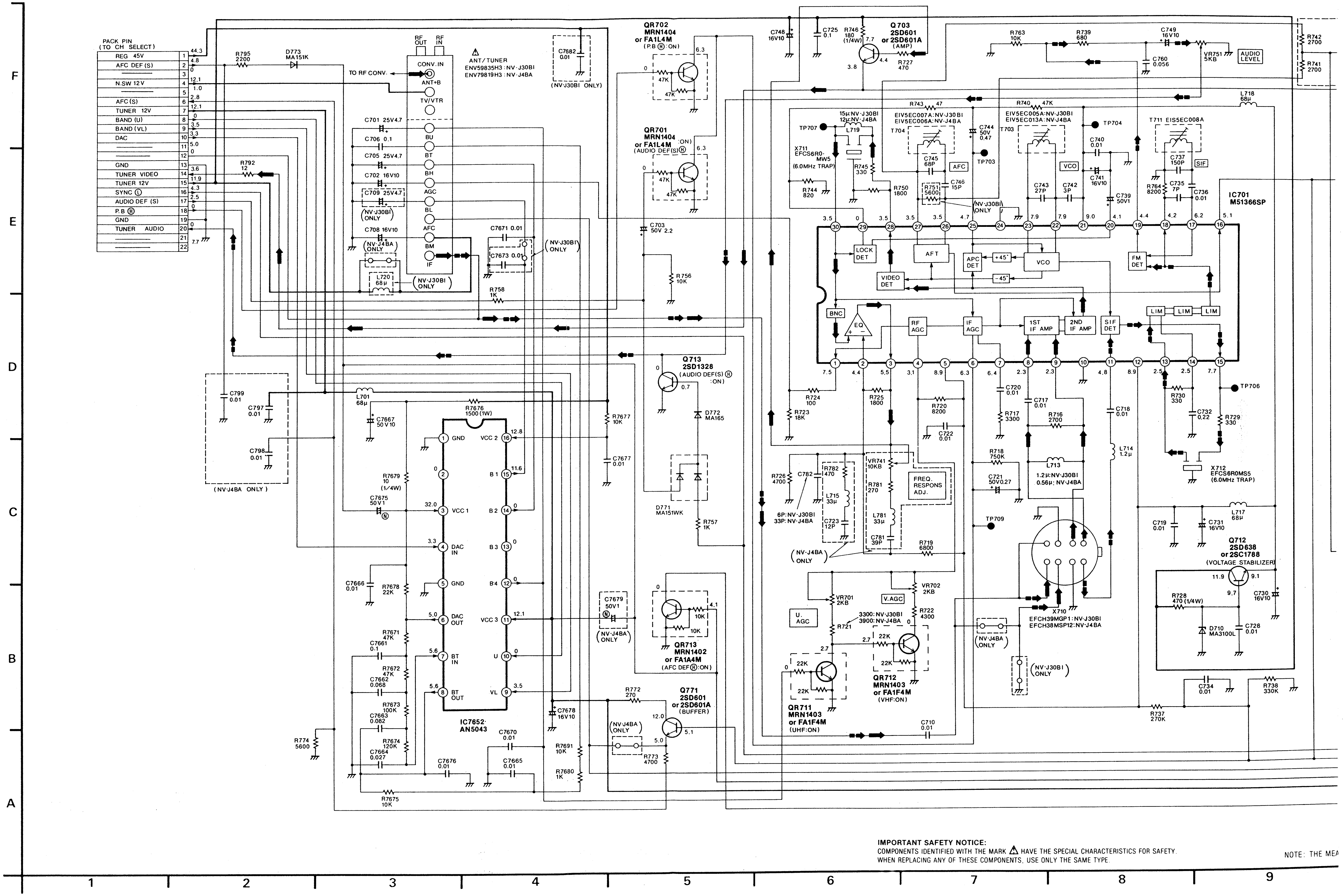
ADDRESS INFORMATION



C
B
A
1
2
3
4
5
6
7
SIF
T711
D772
R756
R758
D771
QR702
QR701
R757
TP704
TP703
VCO
T703
AFC
T704
Q713
C737
C739
R763
C736
C743
C745
C746
R742
R741
X711
TP707
TP709
C749
R739
C735
C742
IC701
C760
VR751
N. AUDIO LEVEL
C734
R764
C740
C722
R718
R7501
R745
R737
R729
TP706
R730
C719
C720
R717
X712
C718
C732
R716
X710
L713
L714
R738
(NV-J30BI)
(NV-J4BA)
C730
D710
C728
C741
C744
R740
R744
R743
L719
Q712
L718
R728
C748
C725
R746
L717
R720
R727
Q703
R747
C7651
L781
R781
C781
FREQ RESPONS
VR741
R722
V. AGC
VR702
C731
R719
R725
L715
C723
C782
R726
R782
R724
QR712
R723
QR711
U. AGC
VR701
R721
C710
R7676
R7692
R792
L720
C7654
R7655
R7656
VR7660
R7657
15.625KHz ADJ
R7654
R7661
IC7651
C7657
R7659
R7664
R7658
C7655
R7662
R7663
C7659
C7656
C7662
R7672
C7661
C707
C7653
R7651
C7663
C7664
C7681
C7658
IC7652
R7678
R7674
R7671
R7673
C7671
C7677
R7679
C7667
C7666
C797
L701
C708
C747
ANT/TUNER
R7691
R7675
R7680
C7676
C7665
C7670
C7673
C7669
C705
R7677
C7678
C702
C7675
C7679
R7694
C7680
C798
C799
R795
Q772
C706
R7683
R7682
IC7653
R7695
QR7601
R7696
R772
D7602
D7601
Q771
R7684
R7681
R773
QR713
R774
D773
C7682
C701

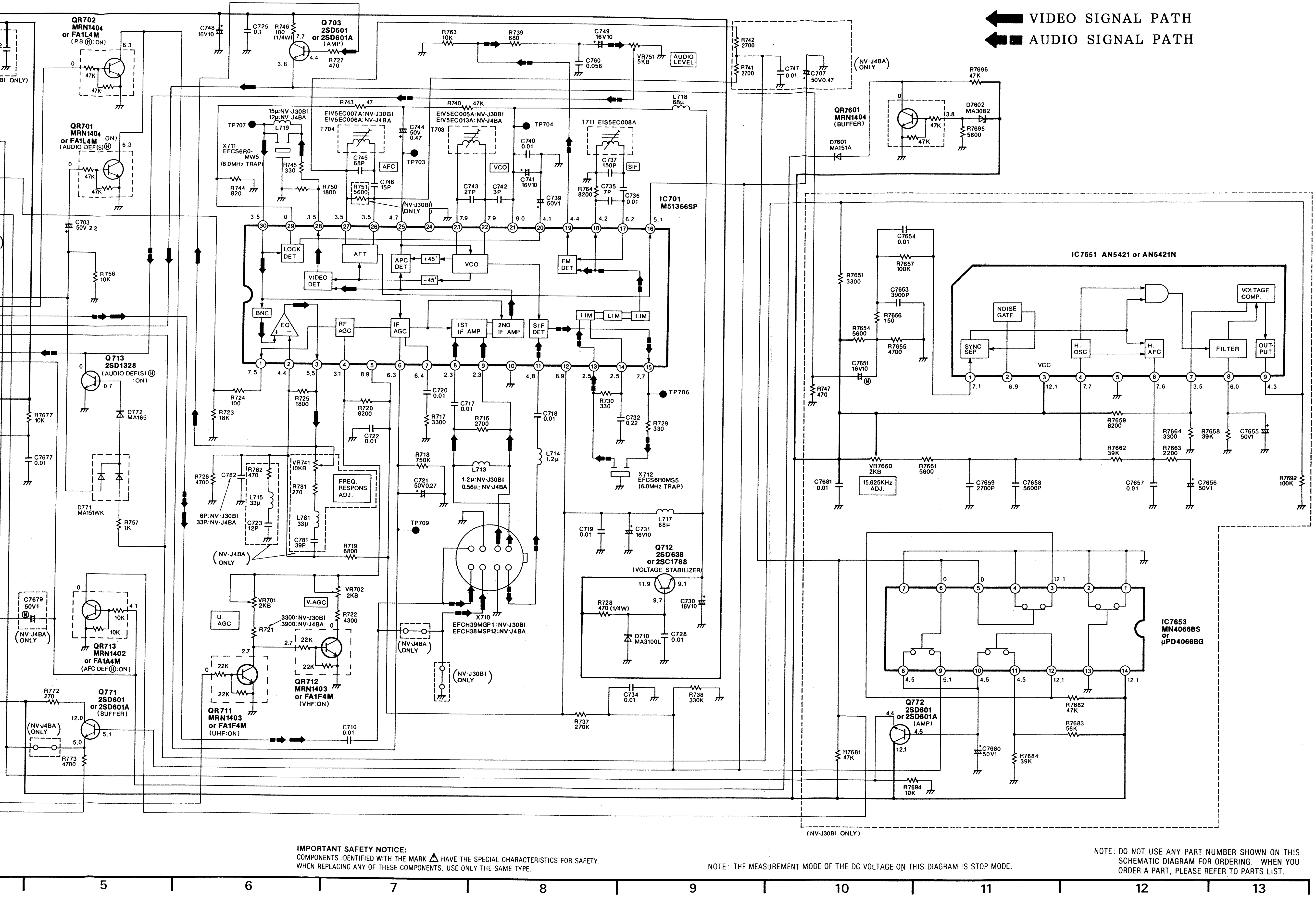
Back Page:
CHANNEL SELECT Section

3-18. TV DEMODULATOR PACK SCHEMATIC DIAGRAM


PACK PIN (TO CH SELECT)
REG 45V
AFC DEF (S)
N.SW 12V
AFC (S)
TUNER 12V
BAND (U)
BAND (VL)
DAC
GND
TUNER VIDEO
TUNER 12V
SYNC Ⓛ
AUDIO DEF (S)
P.B Ⓗ
GND
TUNER AUDIO
ANT/TUNER
ENV59835H3 : NV-J30BI
ENV79819H3 : NV-J4BA
TO RF CONV.
RF OUT
RF IN
CONV.IN
ANT+B
TV/VTR
BU
BT
BH
AGC
BL
AFC
BM
IF
QR702 MRN1404 or FA1L4M (P.B Ⓗ: ON)
QR701 MRN1404 or FA1L4M (AUDIO DEF(S)Ⓗ:ON)
Q703 2SD601 or 2SD601A (AMP)
Q713 2SD1328 (AUDIO DEF(S) Ⓗ :ON)
QR713 MRN1402 or FA1A4M (AFC DEF Ⓗ:ON)
Q771 2SD601 or 2SD601A (BUFFER)
QR711 MRN1403 or FA1F4M (UHF:ON)
QR712 MRN1403 or FA1F4M (VHF:ON)
Q712 2SD638 or 2SC1788 (VOLTAGE STABILIZER)
IC7652 AN5043
GND
VCC 1
DAC IN
DAC OUT
BT IN
BT OUT
VCC 2
VCC 3
B1
B2
B3
B4
U
VL
IC701 M51366SP
LOCK DET
VIDEO DET
AFT
APC DET
VCO
+45°
-45°
FM DET
BNC
EQ
RF AGC
IF AGC
1ST IF AMP
2ND IF AMP
SIF DET
LIM
AUDIO LEVEL
AFC
VCO
SIF
T704 EIV5EC007A:NV-J30BI EIV5EC006A:NV-J4BA
T703 EIV5EC005A:NV-J30BI EIV5EC013A:NV-J4BA
T711 EIS5EC008A
X711 EFCS6R0-MW5 (6.0MHz TRAP)
X712 EFCS6R0MS5 (6.0MHz TRAP)
X710 EFCH39MGP1:NV-J30BI EFCH38MSP12:NV-J4BA
FREQ. RESPONS ADJ.
U. AGC
V.AGC
VR741 10KB
VR701 2KB
VR702 2KB
VR751 5KB
TP703
TP704
TP706
TP707
TP709
(NV-J30BI ONLY)
(NV-J4BA ONLY)
D773 MA151K
D772 MA165
D771 MA151WK
D710 MA3100L
L701 68μ
L720 68μ
L718 68μ
L717 68μ
L719 15μ:NV-J30BI 12μ:NV-J4BA
L714 1.2μ
L713 1.2μ:NV-J30BI 0.56μ: NV-J4BA
L715 33μ
L781 33μ
6P:NV-J30BI 33P:NV-J4BA
3300:NV-J30BI 3900:NV-J4BA
R7676 1500 (1W)
R746 180 (1/4W)
R728 470 (1/4W)
1
2
3
4
5
6
7
8
9
A
B
C
D
E
F

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

NOTE: THE MEA


VIDEO SIGNAL PATH
AUDIO SIGNAL PATH
QR702 MRN1404 or FA1L4M (P.B Ⓗ:ON)
QR701 MRN1404 or FA1L4M (AUDIO DEF(S)Ⓗ:ON)
Q703 2SD601 or 2SD601A (AMP)
IC701 M51366SP
LOCK DET
AFT
APC DET
VCO
FM DET
VIDEO DET
BNC
EQ
RF AGC
IF AGC
1ST IF AMP
2ND IF AMP
SIF DET
LIM
AFC
SIF
TP703
TP704
TP706
TP707
TP709
T703 EIV5EC005A:NV-J30BI EIV5EC013A:NV-J4BA
T704 EIV5EC007A:NV-J30BI EIV5EC006A:NV-J4BA
T711 EIS5EC008A
X711 EFCS6R0-MW5 (6.0MHz TRAP)
X712 EFCS6R0MS5 (6.0MHz TRAP)
X710 EFCH39MGP1:NV-J30BI EFCH38MSP12:NV-J4BA
AUDIO LEVEL
VR751 5KB
Q713 2SD1328 (AUDIO DEF(S)Ⓗ:ON)
D772 MA165
D771 MA151WK
QR713 MRN1402 or FA1A4M (AFC DEF Ⓗ:ON)
Q771 2SD601 or 2SD601A (BUFFER)
QR711 MRN1403 or FA1F4M (UHF:ON)
QR712 MRN1403 or FA1F4M (VHF:ON)
U. AGC
V. AGC
VR701 2KB
VR702 2KB
VR741 10KB
FREQ. RESPONS ADJ.
(NV-J4BA ONLY)
(NV-J30BI ONLY)
Q712 2SD638 or 2SC1788 (VOLTAGE STABILIZER)
D710 MA3100L
QR7601 MRN1404 (BUFFER)
D7601 MA151A
D7602 MA3082
IC7651 AN5421 or AN5421N
NOISE GATE
SYNC SEP
H. OSC
H. AFC
FILTER
VOLTAGE COMP.
OUT-PUT
VCC
VR7660 2KB
15.625KHz ADJ.
IC7653 MN4066BS or µPD4066BG
Q772 2SD601 or 2SD601A (AMP)
(NV-J30BI ONLY)
5
6
7
8
9
10
11
12
13

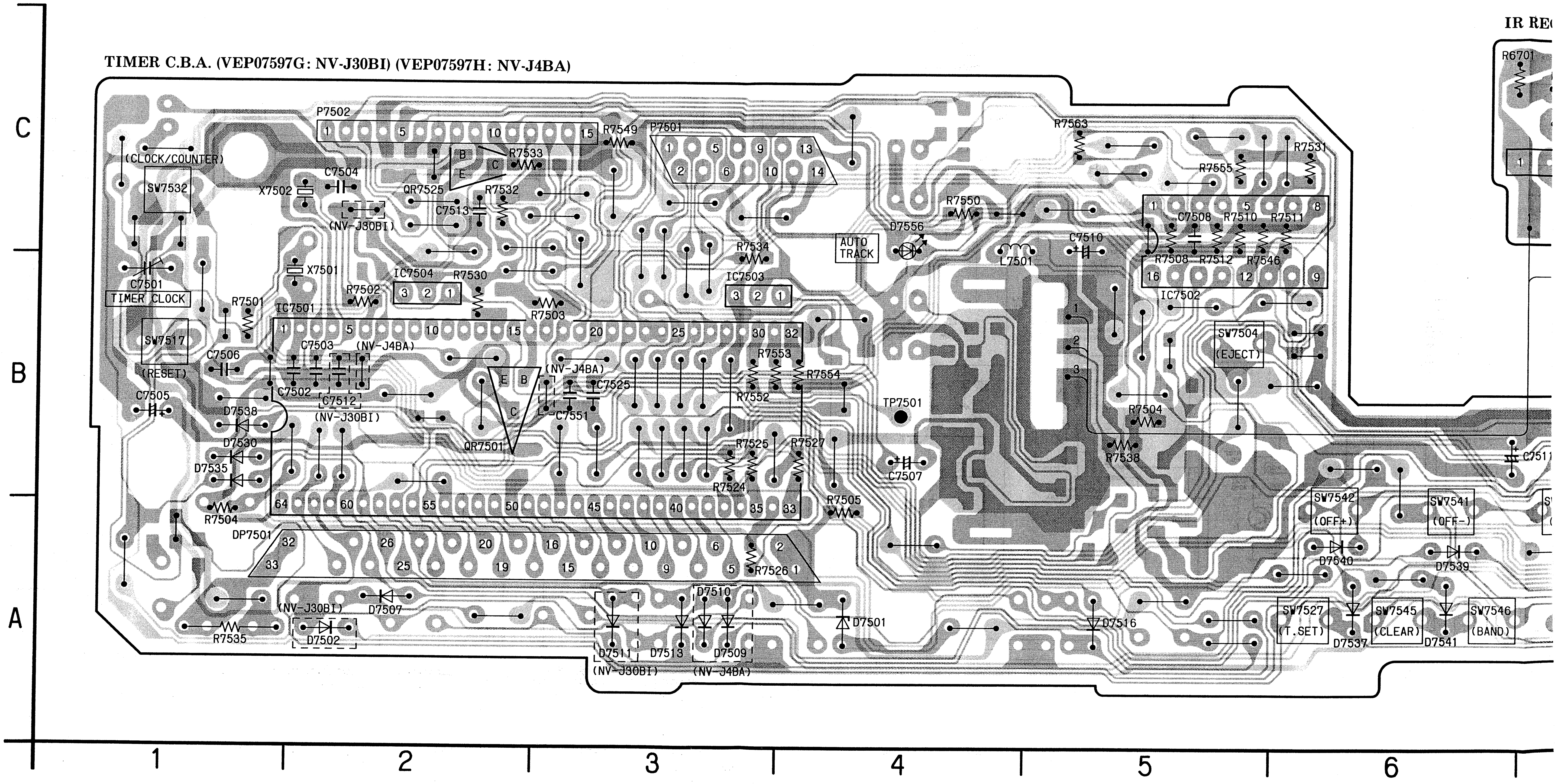
IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

Next Page:
TIMER Section

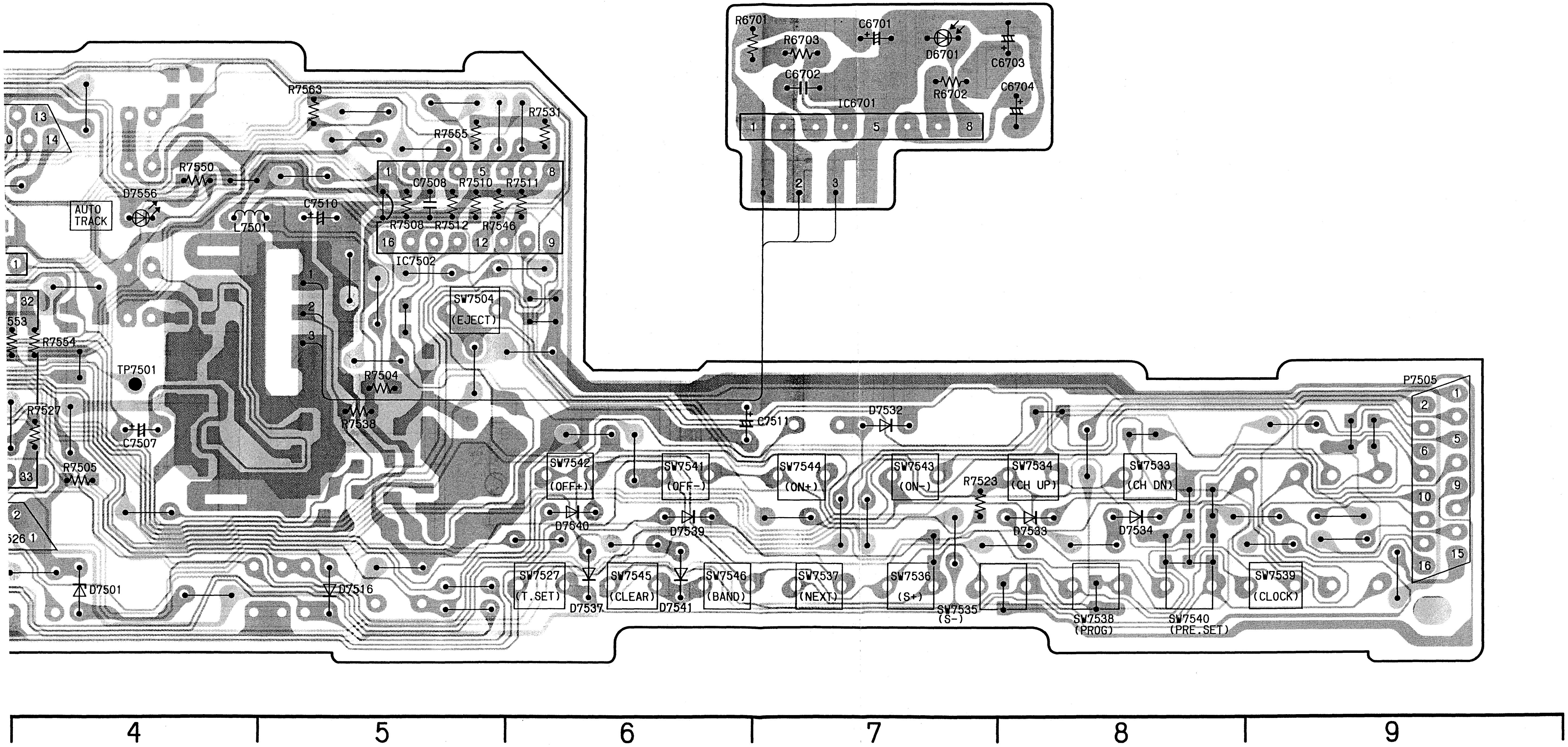
3-19. TIMER C.B.A. (VEP07597G: NV-J30BI) (VEP07597H: NV-J4BA)


TIMER C.B.A. (VEP07597G: NV-J30BI) (VEP07597H: NV-J4BA)
IR RE
R6701
C
B
A
1
2
3
4
5
6
P7502
P7501
R7549
R7533
R7532
QR7525
C7504
X7502
C7513
(NV-J30BI)
X7501
(CLOCK/COUNTER)
SW7532
C7501
TIMER CLOCK
R7501
SW7517
(RESET)
C7506
C7505
IC7504
R7530
R7502
R7503
IC7501
C7503
(NV-J4BA)
C7502
C7512
(NV-J30BI)
D7538
D7530
D7535
R7504
QR7501
(NV-J4BA)
C7525
C7551
R7534
IC7503
R7553
R7554
R7552
R7525
R7527
R7524
R7505
R7526
DP7501
AUTO TRACK
D7556
R7550
L7501
C7510
TP7501
C7507
R7563
R7555
R7531
C7508
R7510
R7511
R7508
R7512
R7546
IC7502
SW7504
(EJECT)
R7504
R7538
C7511
SW7542
(OFF+)
SW7541
(OFF-)
D7540
D7539
SW7527
(T.SET)
D7537
SW7545
(CLEAR)
D7541
SW7546
(BAND)
R7535
(NV-J30BI)
D7507
D7502
D7511
D7513
D7510
D7509
(NV-J30BI)
(NV-J4BA)
D7501
D7516

TIMER C.B.A.					
Transistor & Resistor		IC7502 IC7503 IC7504	B-5 B-3 B-2	**Adjustment**	
QR7501 QR7525	B-2 C-2			C7501	B-1
Integrated Circuit		**Test Point**		**Connector**	
IC6701 IC7501	C-7 B-2	TP7501	B-4	P7501 P7502 P7505	C-3 C-2 B-9

ADDRESS INFORMATION

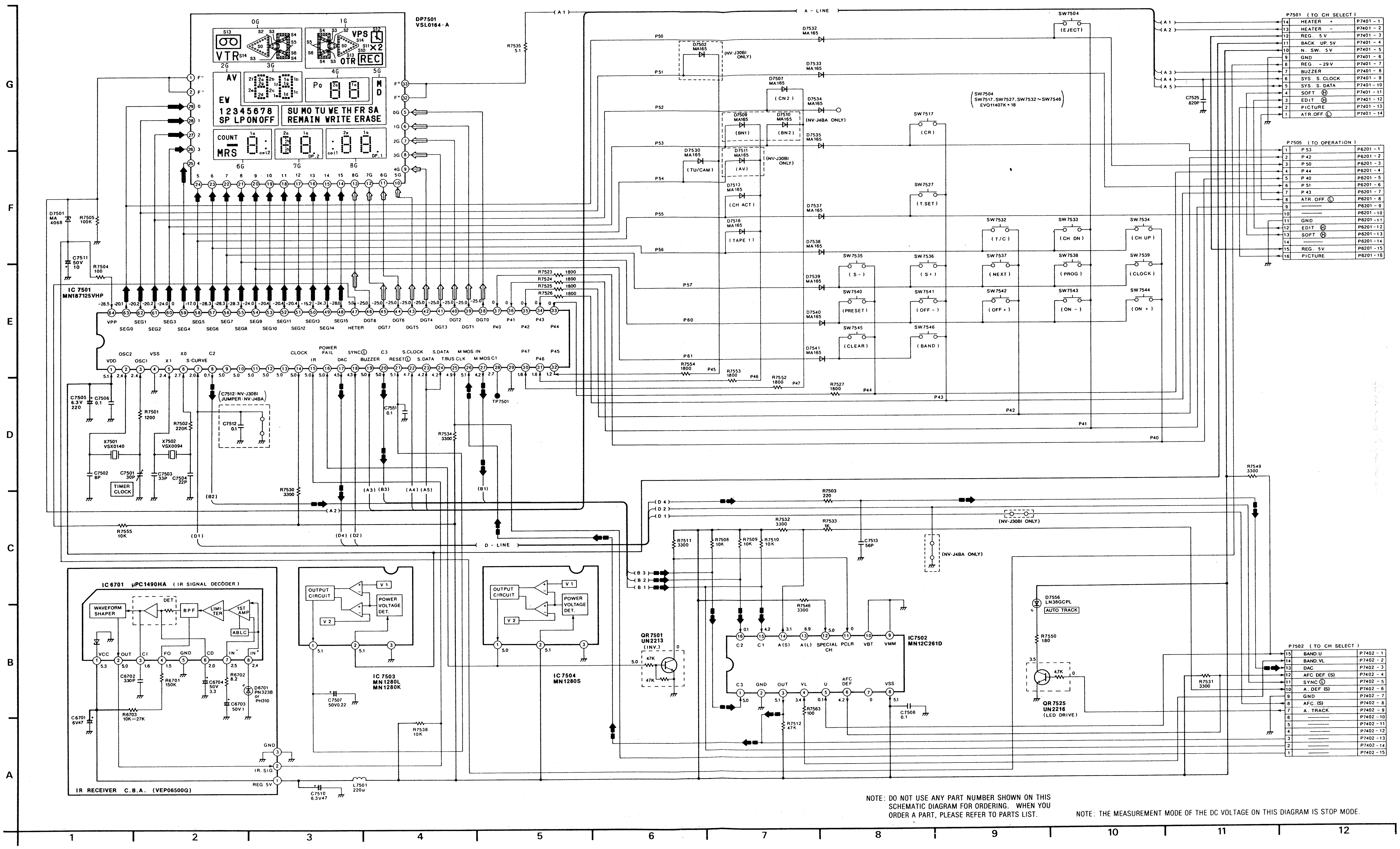
IR RECEIVER C.B.A. (VEP06500G)



R6701
R6703
C6701
D6701
C6703
C6702
R6702
C6704
IC6701
1
5
8
1
2
3
R7563
R7531
R7555
13
14
R7550
D7556
AUTO TRACK
C7508
R7510
R7511
C7510
L7501
R7508
R7512
R7546
16
12
9
IC7502
SW7504 (EJECT)
32
553
R7554
TP7501
R7504
R7527
C7507
R7538
C7511
D7532
P7505
R7505
33
SW7542 (OFF+)
SW7541 (OFF-)
SW7544 (ON+)
SW7543 (ON-)
R7523
SW7534 (CH UP)
SW7533 (CH DN)
D7540
D7539
D7533
D7534
526
D7501
D7516
SW7527 (T.SET)
D7537
SW7545 (CLEAR)
D7541
SW7546 (BAND)
SW7537 (NEXT)
SW7536 (S+)
SW7535 (S-)
SW7538 (PROG)
SW7540 (PRE.SET)
SW7539 (CLOCK)
2
1
6
5
10
9
16
15
4
5
6
7
8
9

3-20. TIMER SCHEMATIC DIAGRAM

SEGMENT CONTROL SIGNAL   GRID CONTROL SIGNAL   TUNE CONTROL SIGNAL



DP7501
VSL0164·A
VTR
OTR
REC
VPS
AV
EW
12345678
SU MO TU WE TH FR SA
SP LP ON OFF
REMAIN WRITE ERASE
COUNT
MRS
IC 7501
MN187125VHP
VPP
SEG0
SEG1
SEG2
SEG3
SEG4
SEG5
SEG6
SEG7
SEG8
SEG9
SEG10
SEG11
SEG12
SEG13
SEG14
SEG15
HETER
DGT8
DGT7
DGT6
DGT5
DGT4
DGT3
DGT2
DGT1
DGT0
P41
P42
P43
P44
P45
P46
P47
VDD
OSC1
OSC2
VSS
X1
X0
S.CURVE
C2
CLOCK
POWER FAIL
IR
DAC
SYNC
BUZZER
C3
RESET
S.CLOCK
S.DATA
T.BUS CLK
M.MOS IN
M.MOS C1
TP7501
D7501 MA4068
R7505 100K
C7511 50V 10
R7504 100
C7505 6.3V 220
C7506 0.1
R7501 1200
R7502 220K
X7501 VSX0140
X7502 VSX0094
C7502 8P
C7501 30P
C7503 33P
C7504 22P
TIMER CLOCK
C7512: NV-J30BI
JUMPER: NV-J4BA
C7512 0.1
C7551 0.1
R7534 3300
R7530 3300
R7555 10K
R7535 5.1
R7523 1800
R7524 1800
R7525 1800
R7526 1800
R7554 1800
R7553 1800
R7552 1800
R7527 1800
A - LINE
D - LINE
P50
P51
P52
P53
P54
P55
P56
P57
P60
P61
D7502 MA165
(NV-J30BI ONLY)
D7507 MA165
(CN2)
D7509 MA165
(BN1)
D7510 MA165
(BN2)
(NV-J4BA ONLY)
D7530 MA165
(TU/CAM)
D7511 MA165
(AV)
(NV-J30BI ONLY)
D7513 MA165
(CH ACT)
D7516 MA165
(TAPE 1)
D7532 MA165
D7533 MA165
D7534 MA165
D7535 MA165
D7537 MA165
D7538 MA165
D7539 MA165
D7540 MA165
D7541 MA165
SW7504
(EJECT)
SW7504
SW7517, SW7527, SW7532~SW7546
EVQ11407K × 18
SW7517 (CR)
SW7527 (T.SET)
SW7532 (T/C)
SW7533 (CH DN)
SW7534 (CH UP)
SW7535 (S-)
SW7536 (S+)
SW7537 (NEXT)
SW7538 (PROG)
SW7539 (CLOCK)
SW7540 (PRESET)
SW7541 (OFF-)
SW7542 (OFF+)
SW7543 (ON-)
SW7544 (ON+)
SW7545 (CLEAR)
SW7546 (BAND)
C7525 820P
R7549 3300
R7503 220
R7532 3300
R7533
C7513 56P
(NV-J30BI ONLY)
(NV-J4BA ONLY)
R7511 3300
R7508 10K
R7509 10K
R7510 10K
R7546 3300
IC7502
MN12C261D
C2
C1
A(S)
A(L)
SPECIAL CH
PCLR
VBT
VMM
C3
GND
OUT
VL
U
AFC DEF
VSS
R7563 100
R7512 47K
C7508 0.1
QR7501
UN2213
(INV.)
47K
D7556
LN38GCPL
AUTO TRACK
R7550 180
QR7525
UN2216
(LED DRIVE)
R7531 3300
IC6701 μPC1490HA (IR SIGNAL DECODER)
WAVEFORM SHAPER
DET
BPF
LIMI-TER
1ST AMP
ABLC
VCC
OUT
CI
FO
GND
CD
IN⁻
IN⁺
C6702 330P
R6701 150K
C6704 50V 3.3
R6702 8.2
D6701 PN323B or PH310
C6703 50V 1
C6701 6V47
R6703 10K—27K
GND
IR. SIG
REG 5V
IR RECEIVER C.B.A. (VEP06500G)
OUTPUT CIRCUIT
POWER VOLTAGE DET.
V1
V2
IC 7503
MN1280L
MN1280K
IC 7504
MN1280S
C7507 50V0.22
R7538 10K
C7510 6.3V47
L7501 220μ
A
B
C
D
E
F
G
1
2
3
4
5
6
7
8
9
10
11
12

P7501 (TO CH SELECT)

14	HEATER +	P7401 - 1
13	HEATER −	P7401 - 2
12	REG. 5 V	P7401 - 3
11	BACK UP. 5V	P7401 - 4
10	N. SW. 5 V	P7401 - 5
9	GND	P7401 - 6
8	REG. −29 V	P7401 - 7
7	BUZZER	P7401 - 8
6	SYS. S. CLOCK	P7401 - 9
5	SYS. S. DATA	P7401 - 10
4	SOFT Ⓗ	P7401 - 11
3	EDIT Ⓗ	P7401 - 12
2	PICTURE	P7401 - 13
1	ATR.OFF. Ⓛ	P7401 - 14

P7505 (TO OPERATION)

1	P 53	P6201 - 1
2	P 42	P6201 - 2
3	P 50	P6201 - 3
4	P 44	P6201 - 4
5	P 40	P6201 - 5
6	P 51	P6201 - 6
7	P 43	P6201 - 7
8	ATR. OFF. Ⓛ	P6201 - 8
9	———	P6201 - 9
10	———	P6201 - 10
11	GND	P6201 - 11
12	EDIT Ⓗ	P6201 - 12
13	SOFT Ⓗ	P6201 - 13
14	———	P6201 - 14
15	REG. 5V	P6201 - 15
16	PICTURE	P6201 - 16

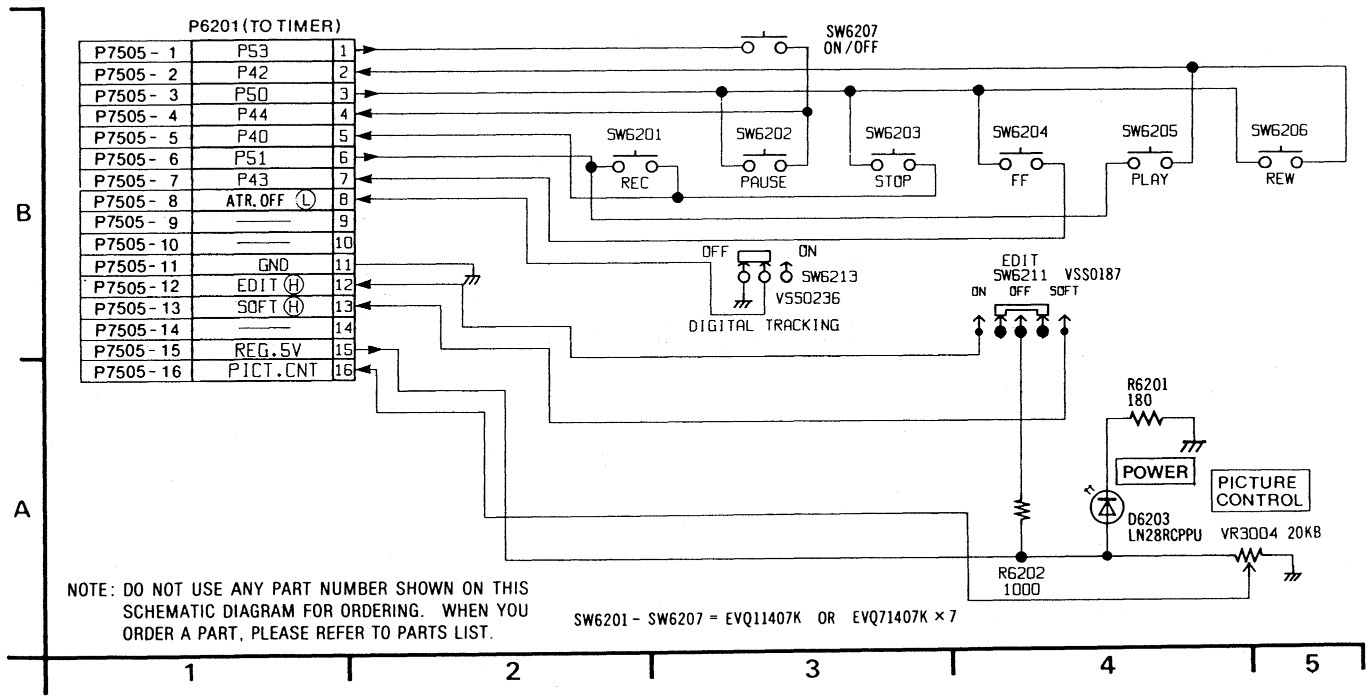
P7502 (TO CH SELECT)

15	BAND. U	P7402 - 1
14	BAND. VL	P7402 - 2
13	DAC	P7402 - 3
12	AFC DEF (S)	P7402 - 4
11	SYNC Ⓛ	P7402 - 5
10	A. DEF (S)	P7402 - 6
9	GND	P7402 - 7
8	AFC. (S)	P7402 - 8
7	A. TRACK	P7402 - 9
6	———	P7402 - 10
5	———	P7402 - 11
4	———	P7402 - 12
3	———	P7402 - 13
2	———	P7402 - 14
1	———	P7402 - 15

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

3-21. OPERATION SCHEMATIC DIAGRAM


P6201 (TO TIMER)
P7505-1 P53 1
P7505-2 P42 2
P7505-3 P50 3
P7505-4 P44 4
P7505-5 P40 5
P7505-6 P51 6
P7505-7 P43 7
P7505-8 ATR.OFF Ⓛ 8
P7505-9 9
P7505-10 10
P7505-11 GND 11
P7505-12 EDIT Ⓗ 12
P7505-13 SOFT Ⓗ 13
P7505-14 14
P7505-15 REG.5V 15
P7505-16 PICT.CNT 16
SW6207
ON/OFF
SW6201
REC
SW6202
PAUSE
SW6203
STOP
SW6204
FF
SW6205
PLAY
SW6206
REW
OFF
ON
SW6213
VSS0236
DIGITAL TRACKING
EDIT
SW6211 VSS0187
ON OFF SOFT
R6201
180
POWER
PICTURE CONTROL
D6203
LN28RCPPU
VR3004 20KB
R6202
1000
B
A
1
2
3
4
5

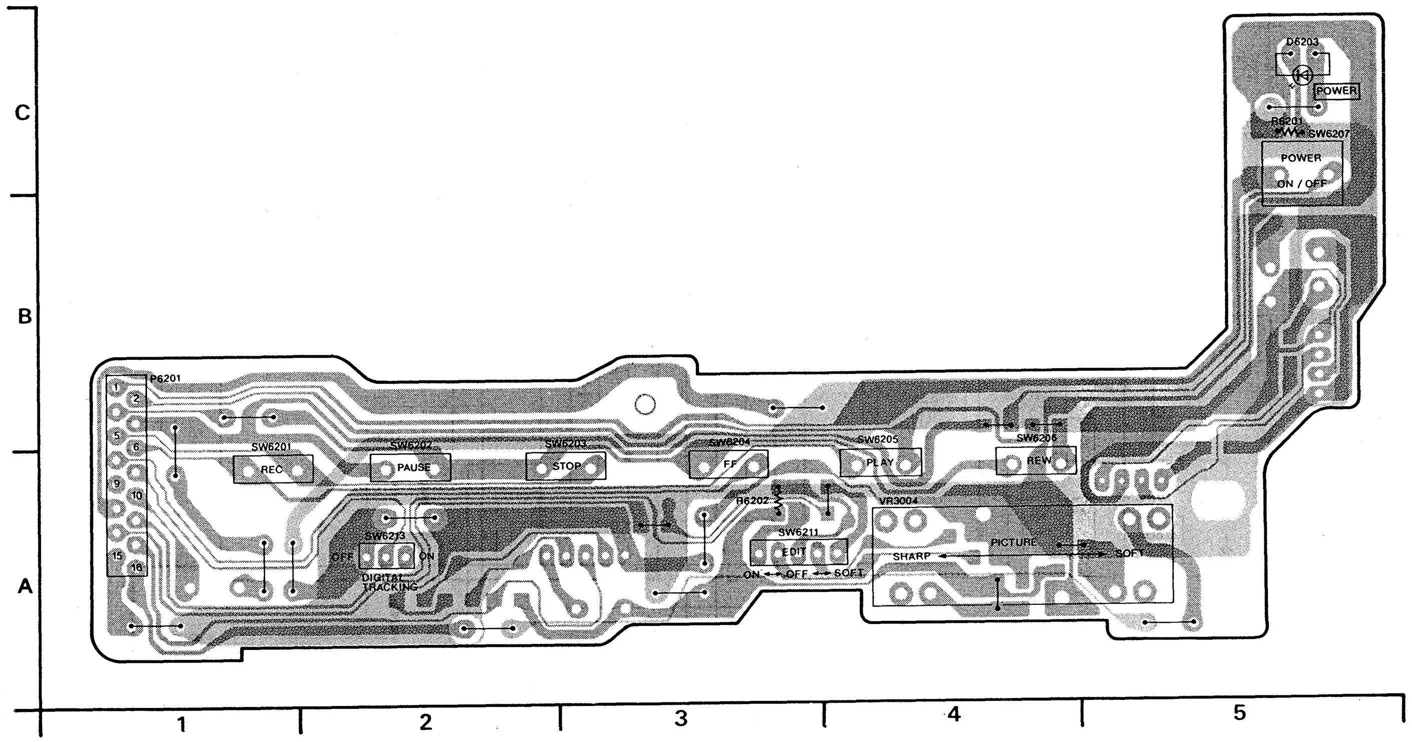
NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

SW6201 - SW6207 = EVQ11407K OR EVQ71407K × 7

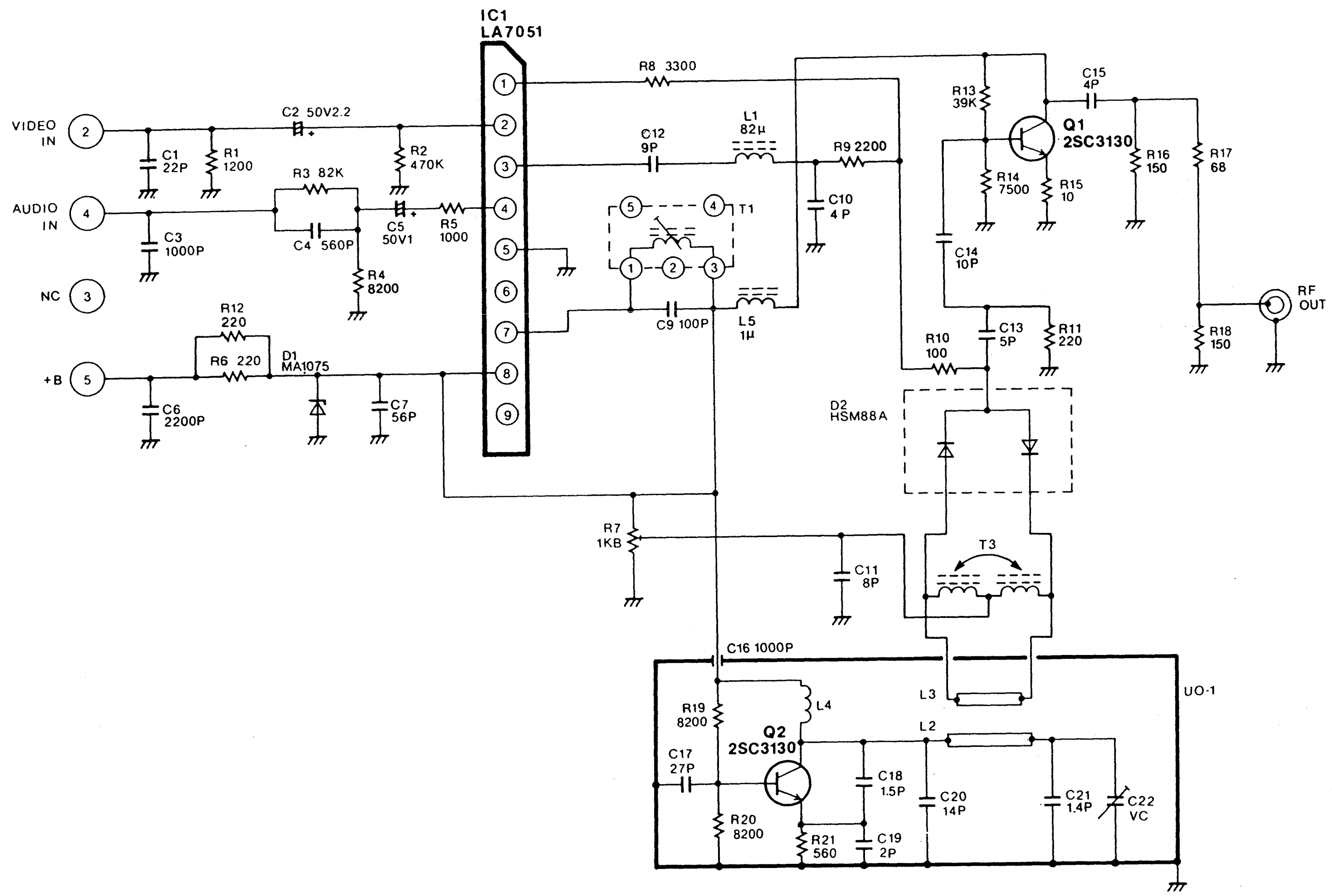
3-22. OPERATION C.B.A. (VEP06680A)

OPERATION C.B.A.	
Adjustment	
VR3004	A-4
Connector	
P6201	B-1

ADDRESS INFORMATION

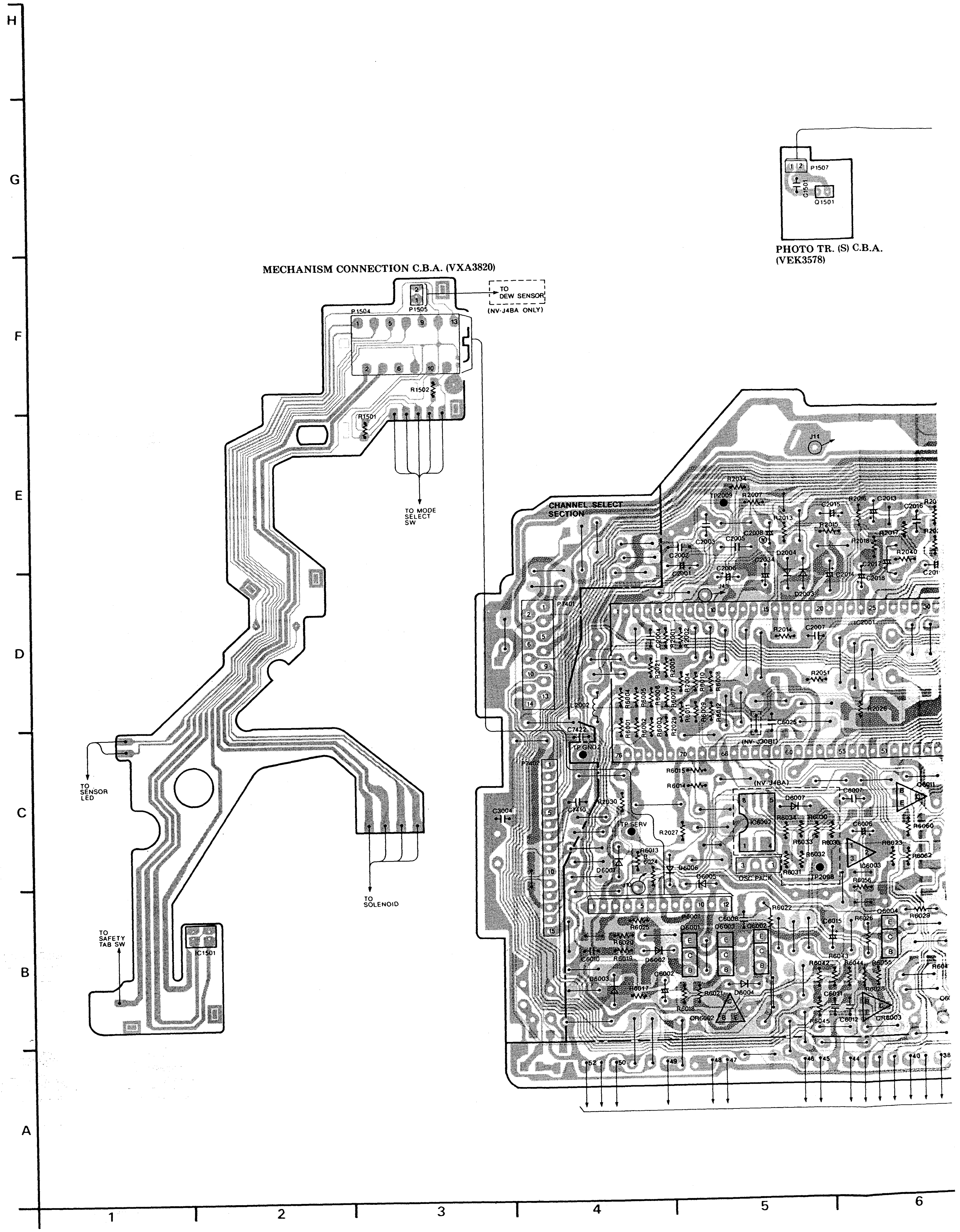

P6201
SW6201
REC
SW6202
PAUSE
SW6203
STOP
SW6204
FF
SW6205
PLAY
SW6206
REW
D6203
POWER
R6201
SW6207
POWER
ON/OFF
R6202
SW6211
EDIT
ON OFF SOFT
SW6213
OFF ON
DIGITAL TRACKING
VR3004
PICTURE
SHARP
SOFT
C
B
A
1
2
3
4
5

3-23. RF CONVERTER SCHEMATIC DIAGRAM (ENC17972B)



IC1
LA7051
VIDEO IN ②
AUDIO IN ④
NC ③
+B ⑤
C1 22P
R1 1200
C2 50V2.2
R2 470K
R3 82K
C3 1000P
C4 560P
C5 50V1
R5 1000
R4 8200
R12 220
R6 220
D1 MA1075
C6 2200P
C7 56P
R8 3300
C12 9P
L1 82μ
R9 2200
C10 4P
T1
C9 100P
L5 1μ
R13 39K
R14 7500
Q1 2SC3130
R15 10
C15 4P
R16 150
R17 68
C14 10P
C13 5P
R10 100
R11 220
R18 150
RF OUT
D2 HSM88A
R7 1KB
C11 8P
T3
C16 1000P
R19 8200
L4
Q2 2SC3130
C17 27P
R20 8200
R21 560
C18 1.5P
C19 2P
L3
L2
C20 14P
C21 1.4P
C22 VC
UO-1

3-24. MAIN C.B.A. (VEP03764J: NV-J30BI) (VEP03764K: NV-J4BA)



H
G
F
E
D
C
B
A
1
2
3
4
5
6
PHOTO TR. (S) C.B.A. (VEK3578)
P1507
Q1501
MECHANISM CONNECTION C.B.A. (VXA3820)
TO DEW SENSOR (NV-J4BA ONLY)
P1504
P1505
R1502
R1501
TO MODE SELECT SW
TO SENSOR LED
TO SOLENOID
TO SAFETY TAB SW
IC1501
CHANNEL SELECT SECTION
IC2001
IC6001
(NV-J30BI)
(NV-J4BA)
OSC PACK

64K: NV-J4BA)

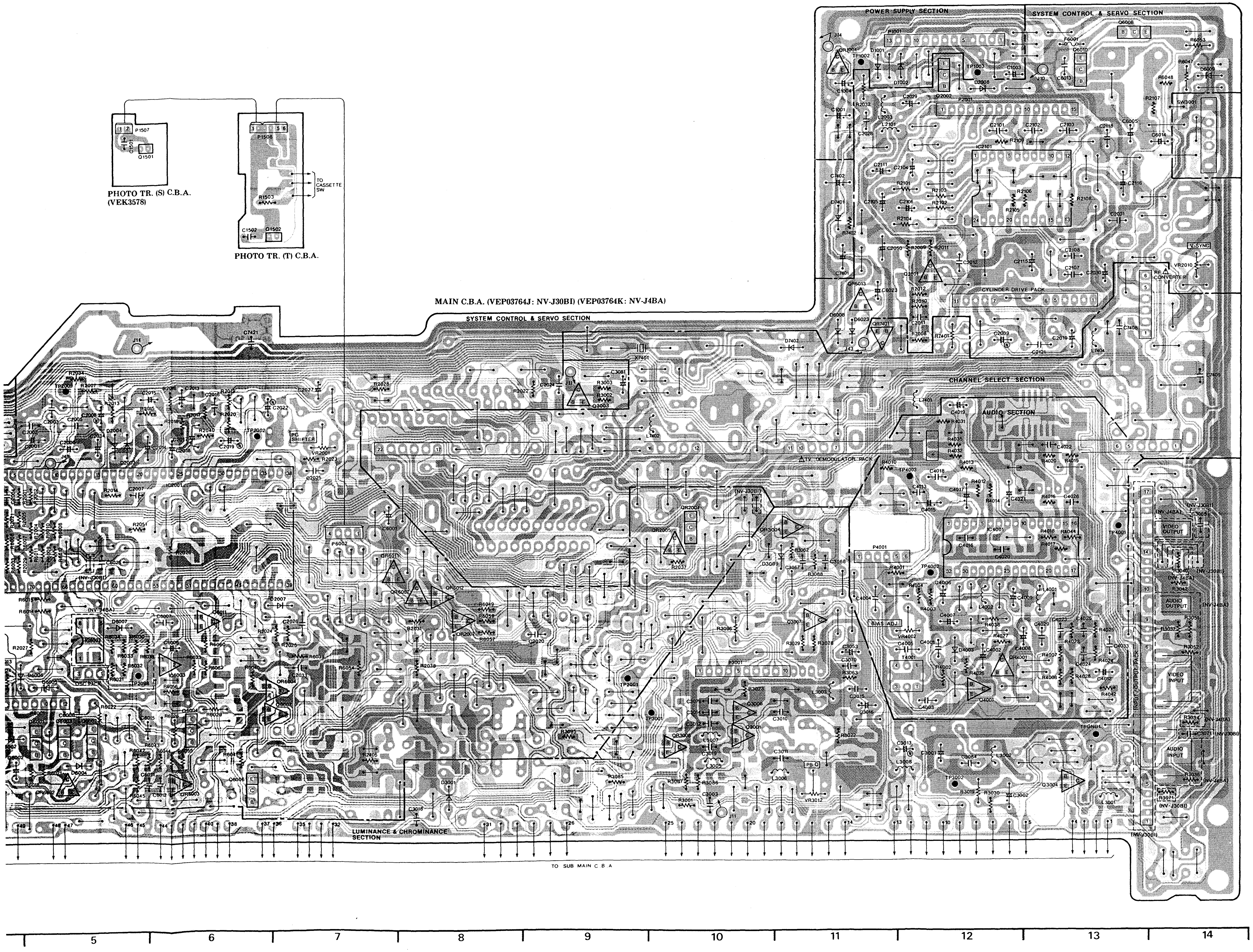


PHOTO TR. (S) C.B.A.
(VEK3578)
PHOTO TR. (T) C.B.A.
TO CASSETTE SW
MAIN C.B.A. (VEP03764J: NV-J30BI) (VEP03764K: NV-J4BA)
POWER SUPPLY SECTION
SYSTEM CONTROL & SERVO SECTION
CYLINDER DRIVE PACK
CHANNEL SELECT SECTION
AUDIO SECTION
TV DEMODULATOR PACK
LUMINANCE & CHROMINANCE SECTION
TO SUB MAIN C.B.A
VIDEO OUTPUT
AUDIO OUTPUT
VIDEO INPUT
AUDIO INPUT
RF CONVERTER
PG SHIFTER
BIAS ADJ
5
6
7
8
9
10
11
12
13
14

MAIN C.B.A. ADDRESS INFORMATION

SYSTEM CONTROL & SERVO Section	
Transistor	
Q1501	G-6
Q1502	F-7
Q2001	F-12
Q2002	G-12
Q6001	B-5
Q6002	B-5
Q6003	B-5
Q6004	B-6
Q6006	B-6
Q6007	B-7
Q6008	H-13
Q6010	H-13
Q6011	C-6
Transistor & Resistor	
QR2002	C-8
QR2004	D-10
QR2005	D-10
QR6002	B-5
QR6003	B-6
QR6004	B-7
QR6007	C-8
QR6011	D-7
QR6012	C-8
QR6013	F-11
Integrated Circuit	
IC1501	B-2
IC2001	D-6
IC2101	G-12
IC6002	C-5
IC6003	C-6
Test Point	
TP2001	C-9
TP2002	E-6
TP2009	E-5
TP2098	C-5
TPSERV	C-4
TPGND2	C-4
Adjustment	
VR2001	D-7
VR2010	F-14
Connector	
P1504	F-3
P1505	F-3
P1507	G-5
P1508	G-6
P2001	G-12
P6001	B-5
P6002	D-7

ADDRESS INFORMATION

CHANNEL SELECT Section	
Transistor & Resistor	
QR7401	E-11
Connector	
P7401	D-4
P7402	C-4

ADDRESS INFORMATION

LUMINANCE & CHROMINANCE Section	
Transistor	
Q3001	B-10
Q3003	E-9
Q3004	B-13
Q3006	B-10
Q3007	C-11
Transistor & Resistor	
QR3004	D-11
QR3008	B-10
Test Point	
TP3001	B-10
TP3002	B-12
Adjustment	
VR3012	B-11
Connector	
P3001	C-10

ADDRESS INFORMATION

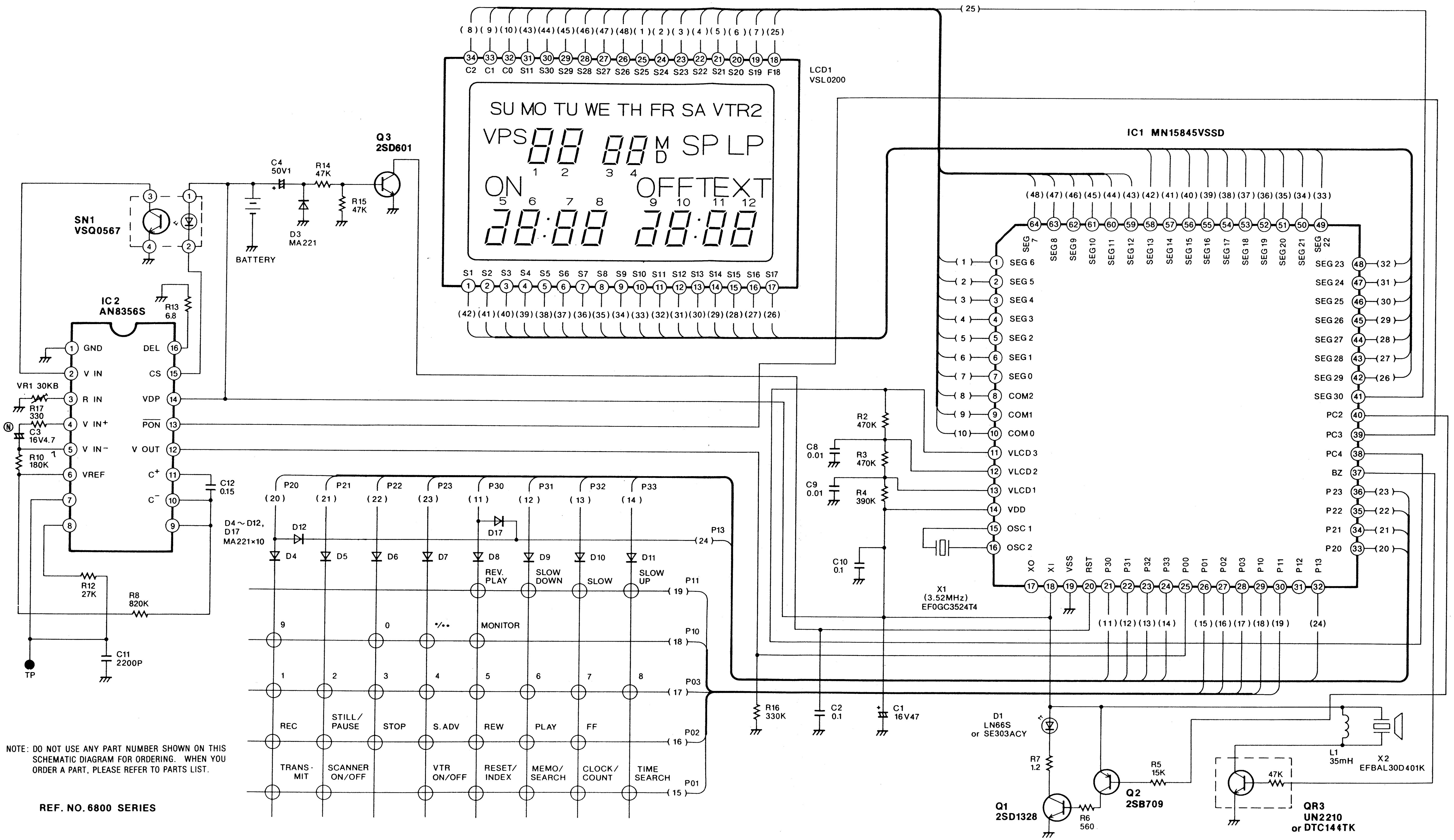
AUDIO Section	
Transistor	
Q4001	B-12
Transistor & Resistor	
QR4001	C-12
Integrated Circuit	
IC4001	D-12
Test Point	
TP4001	D-13
TP4002	C-12
TP4003	D-12
Adjustment	
VR4002	C-12
Connector	
P4001	D-11

ADDRESS INFORMATION

POWER Section	
Transistor & Resistor	
QR1001	H-11
Test Point	
TP1002	H-11
TP1003	G-12
TPGND1	B-13
Connector	
P1001	H-12

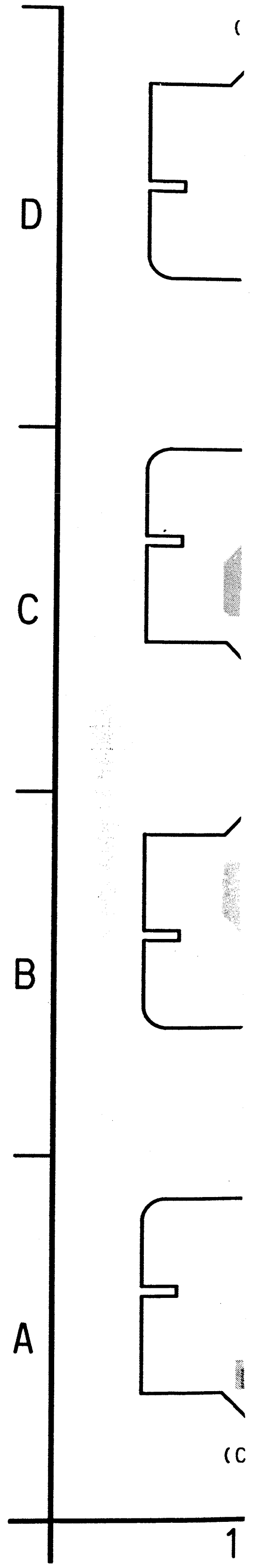
ADDRESS INFORMATION

3-25. REMOTE CONTROLLER (BUILD IN DIGITAL SCANNER) SCHEMATIC DIAGRAM
—— UNIT NO.: VEQ1107 (NV-J30BI), VEQ1149 (NV-J4BA) ——


SN1
VSQ0567
IC2
AN8356S
GND
V IN
R IN
V IN+
V IN−
VREF
DEL
CS
VDP
PON
V OUT
C+
C−
VR1 30KB
R17
330
C3
16V4.7
R10
180K
R13
6.8
C12
0.15
R12
27K
R8
820K
C11
2200P
TP
C4
50V1
R14
47K
R15
47K
D3
MA221
BATTERY
Q3
2SD601
LCD1
VSL0200
C2 C1 C0 S11 S30 S29 S28 S27 S26 S25 S24 S23 S22 S21 S20 S19 F18
S1 S2 S3 S4 S5 S6 S7 S8 S9 S10 S11 S12 S13 S14 S15 S16 S17
SU MO TU WE TH FR SA VTR2
VPS 88 88 M D SP LP
ON OFF TEXT
1 2 3 4 5 6 7 8 9 10 11 12
IC1 MN15845VSSD
SEG 6
SEG 5
SEG 4
SEG 3
SEG 2
SEG 1
SEG 0
COM2
COM1
COM0
VLCD 3
VLCD 2
VLCD 1
VDD
OSC 1
OSC 2
SEG 7 SEG8 SEG9 SEG10 SEG11 SEG12 SEG13 SEG14 SEG15 SEG16 SEG17 SEG18 SEG19 SEG20 SEG 21 SEG 22
SEG 23
SEG 24
SEG 25
SEG 26
SEG 27
SEG 28
SEG 29
SEG 30
PC2
PC3
PC4
BZ
P 23
P 22
P 21
P 20
XO XI VSS RST P30 P31 P32 P33 P00 P01 P02 P03 P10 P11 P12 P13
R2
470K
R3
470K
R4
390K
C8
0.01
C9
0.01
C10
0.1
X1
(3.52MHz)
EF0GC3524T4
R16
330K
C2
0.1
C1
16V47
D1
LN66S
or SE303ACY
R7
1.2
Q1
2SD1328
R6
560
R5
15K
Q2
2SB709
47K
QR3
UN2210
or DTC144TK
L1
35mH
X2
EFBAL30D401K
P20 P21 P22 P23 P30 P31 P32 P33
D4～D12,
D17
MA221×10
D12
D17
D4 D5 D6 D7 D8 D9 D10 D11
P13
REV. PLAY
SLOW DOWN
SLOW
SLOW UP
P11
9
0
*/••
MONITOR
P10
1 2 3 4 5 6 7 8
P03
REC
STILL/ PAUSE
STOP
S.ADV
REW
PLAY
FF
P02
TRANS-MIT
SCANNER ON/OFF
VTR ON/OFF
RESET/ INDEX
MEMO/ SEARCH
CLOCK/ COUNT
TIME SEARCH
P01

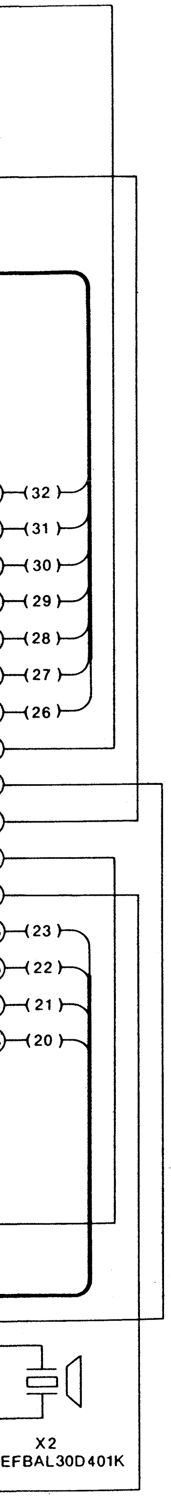
NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

REF. NO. 6800 SERIES

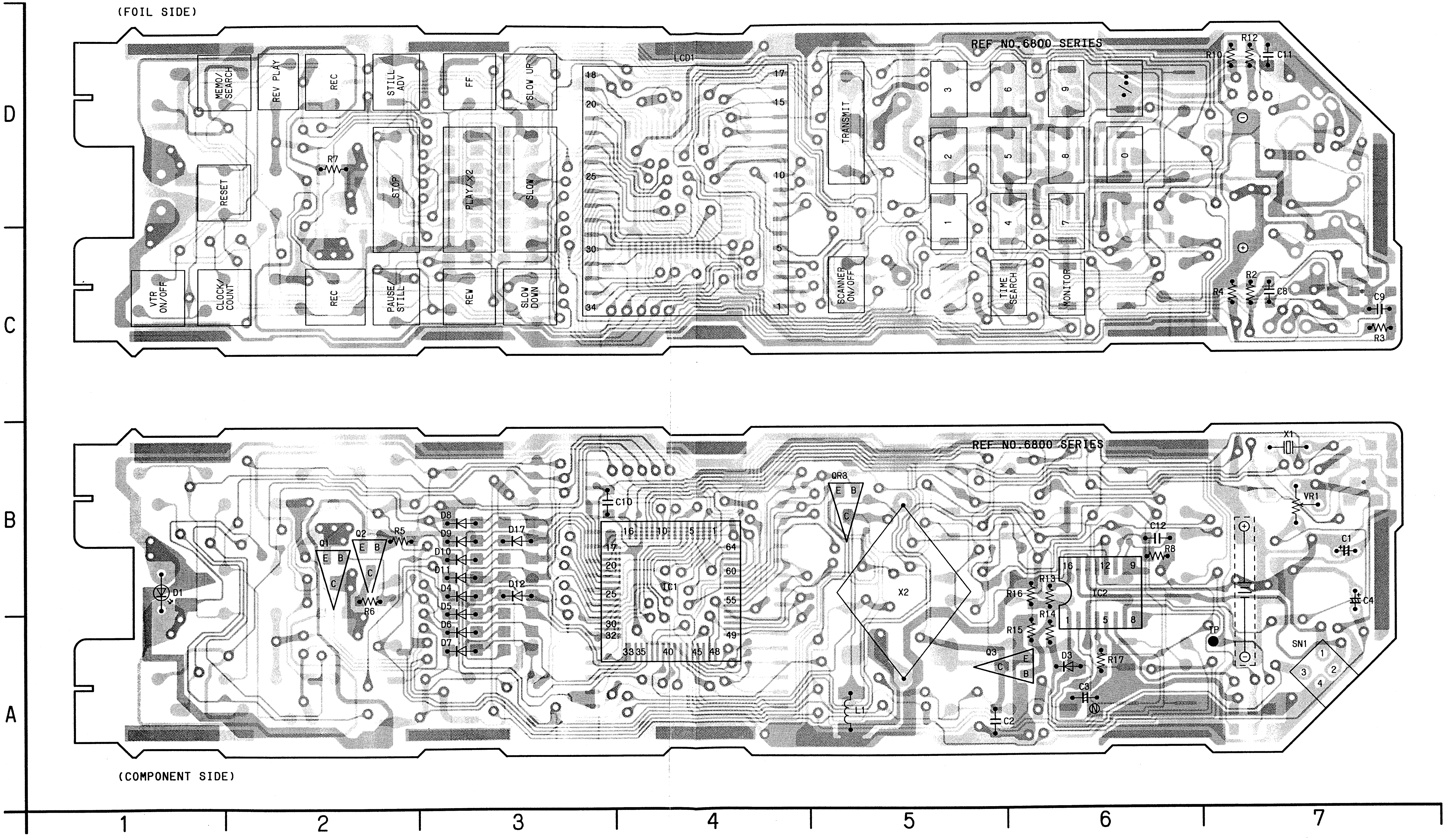


Back Page:
RF CONV. & MAIN C.B.A. Section

3-26. REMOTE CONTROLLER (BUILD IN DIGITAL SCANNER) C.B.A. (VEP66125D)

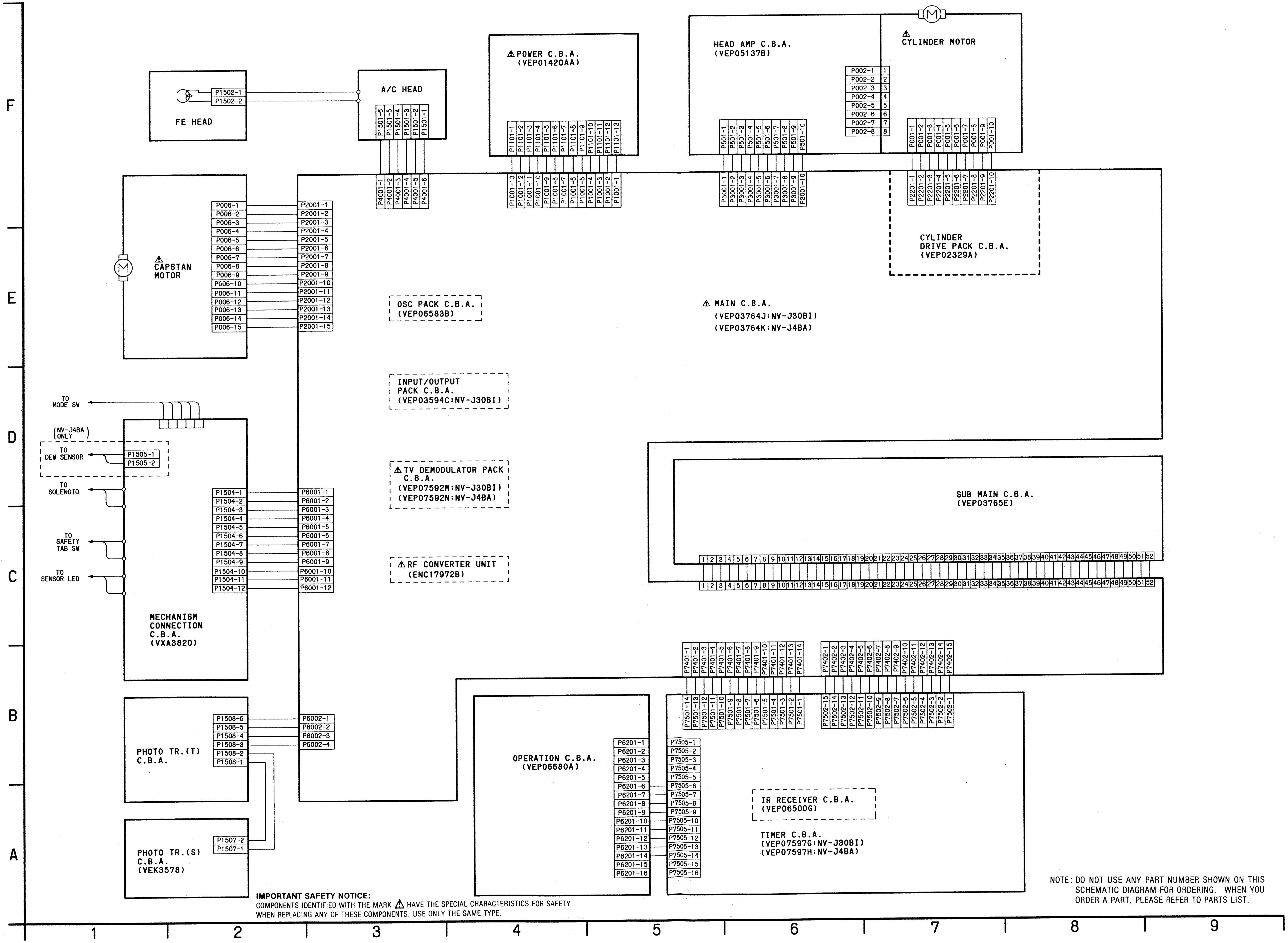


(32)
(31)
(30)
(29)
(28)
(27)
(26)
(23)
(22)
(21)
(20)
X2
EFBAL30D401K



(FOIL SIDE)
REF NO.6800 SERIES
MEMO/SEARCH
REV PLAY
REC
STILL ADV
FF
SLOW UP
R7
RESET
STOP
PLAY/X2
SLOW
VTR ON/OFF
CLOCK/COUNT
REC
PAUSE STILL
REW
SLOW DOWN
LCD1
18
20
25
30
34
17
15
10
5
1
TRANSMIT
SCANNER ON/OFF
3
6
9
•/••
2
5
8
0
1
4
7
TIME SEARCH
MONITOR
R10
R12
C11
R4
R2
C8
C9
R3
(COMPONENT SIDE)
REF NO.6800 SERIES
D1
Q1
Q2
E
B
C
R5
R6
D8
D9
D10
D11
D4
D5
D6
D7
D17
D12
C10
IC1
16
10
5
1
17
20
25
30
32
33
35
40
45
48
64
60
55
49
QR3
X2
L1
C2
Q3
R15
R16
R13
R14
D3
C3
R17
IC2
C12
R8
TP
X1
VR1
C1
C4
SN1
D
C
B
A
1
2
3
4
5
6
7

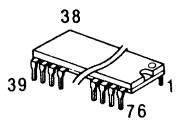
3-27. INTERCONNECTION SCHEMATIC DIAGRAM


F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
FE HEAD
P1502-1
P1502-2
A/C HEAD
⚠ POWER C.B.A. (VEP01420AA)
HEAD AMP C.B.A. (VEP05137B)
⚠ CYLINDER MOTOR
CYLINDER DRIVE PACK C.B.A. (VEP02329A)
⚠ CAPSTAN MOTOR
OSC PACK C.B.A. (VEP06583B)
⚠ MAIN C.B.A. (VEP03764J:NV-J30BI) (VEP03764K:NV-J4BA)
INPUT/OUTPUT PACK C.B.A. (VEP03594C:NV-J30BI)
⚠ TV DEMODULATOR PACK C.B.A. (VEP07592M:NV-J30BI) (VEP07592N:NV-J4BA)
⚠ RF CONVERTER UNIT (ENC17972B)
SUB MAIN C.B.A. (VEP03765E)
TO MODE SW
(NV-J4BA ONLY)
TO DEW SENSOR
P1505-1
P1505-2
TO SOLENOID
TO SAFETY TAB SW
TO SENSOR LED
MECHANISM CONNECTION C.B.A. (VXA3820)
PHOTO TR.(T) C.B.A.
PHOTO TR.(S) C.B.A. (VEK3578)
OPERATION C.B.A. (VEP06680A)
IR RECEIVER C.B.A. (VEP06500G)
TIMER C.B.A. (VEP07597G:NV-J30BI) (VEP07597H:NV-J4BA)

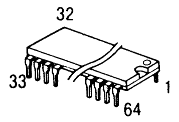
IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

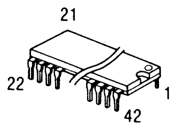
3-28. ICs & TRs INFORMATION



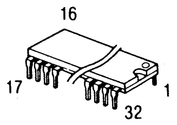
MN6740VCTK



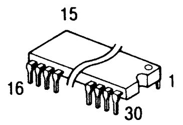
MN187125VHP



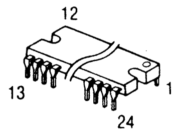
MN158413VSSJ



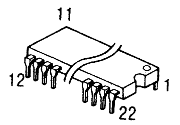
BA7274S
BA7766AS



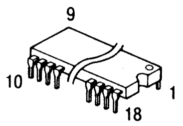
M51366SP



BA6435S



LA7150



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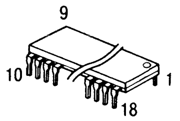

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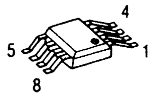

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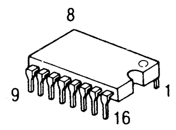

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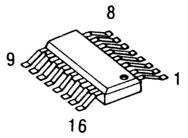

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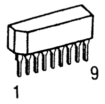

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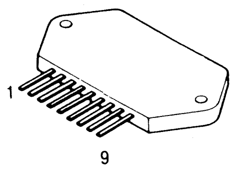

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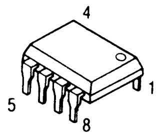

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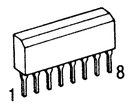

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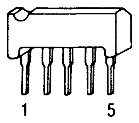

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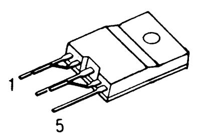

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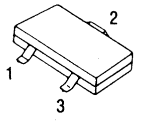

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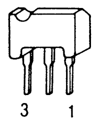

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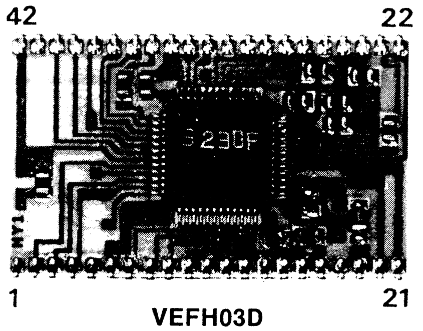

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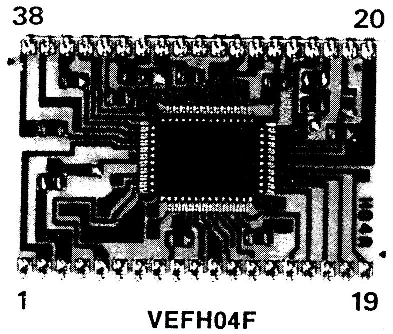
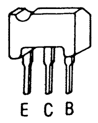


VEFH04F

Back Page:
INTERCONNECTION Section



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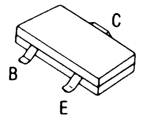
2SD638
2SD1330
2SD1991A
2SD1992
2SD1994
2SD1996



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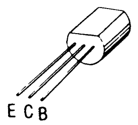
2SB710 MSB710
2SC2295 MSB2295
2SD1328 MSD601
2SD601 MSD602
2SD602



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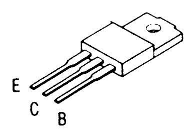

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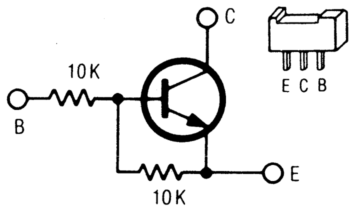
C
10K
B
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E
E C B

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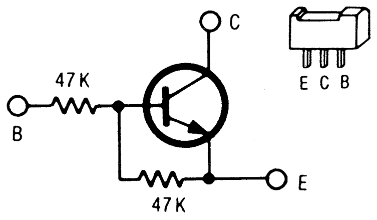
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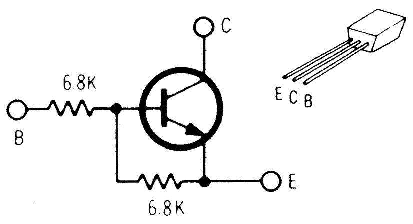
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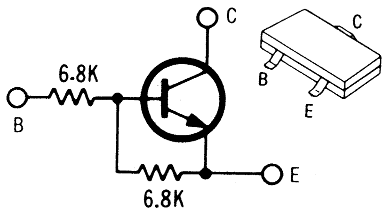
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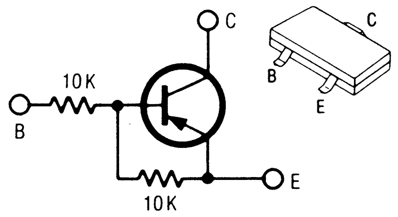
6.8K
E
C
B
E

DTC363EK


C
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10K
E
C
B
E

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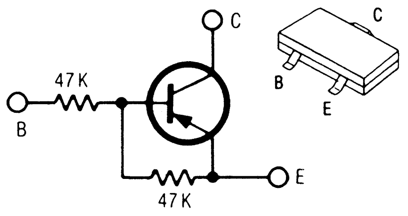
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E
C
B
E

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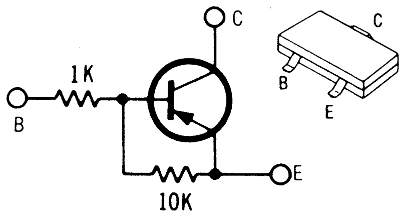
C
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B
10K
E
C
B
E

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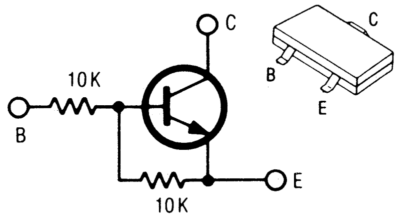
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10K
E
C
B
E

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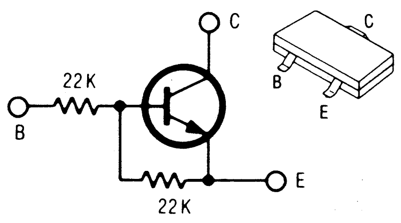
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22K
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22K
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C
B
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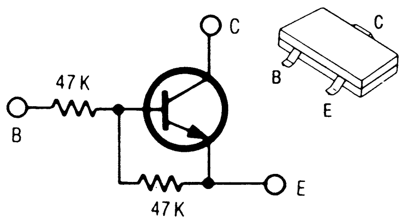
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47K
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C
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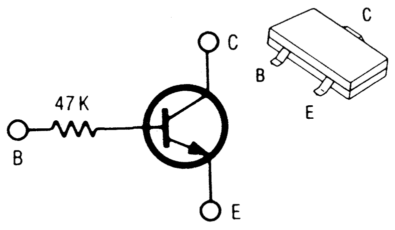
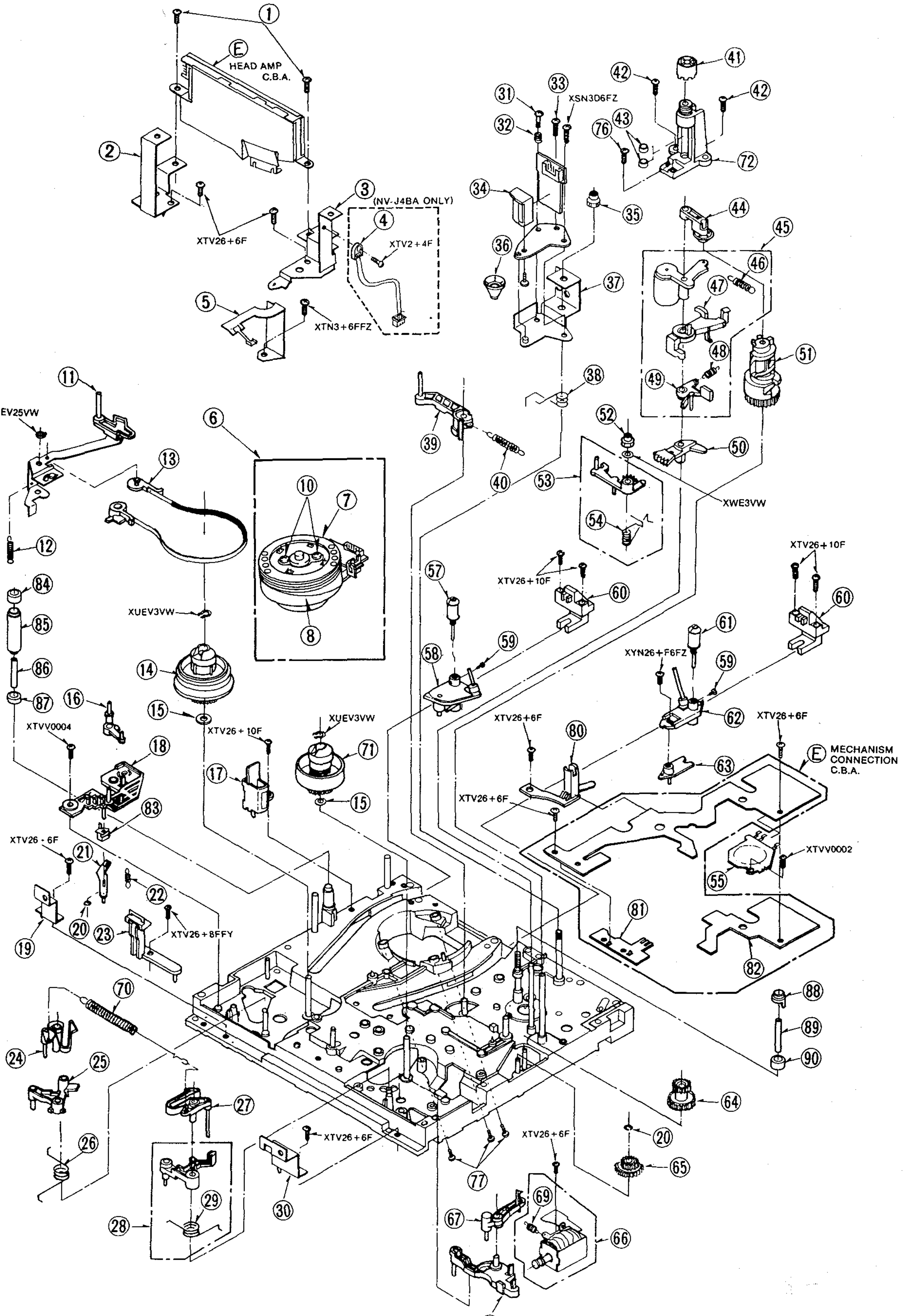


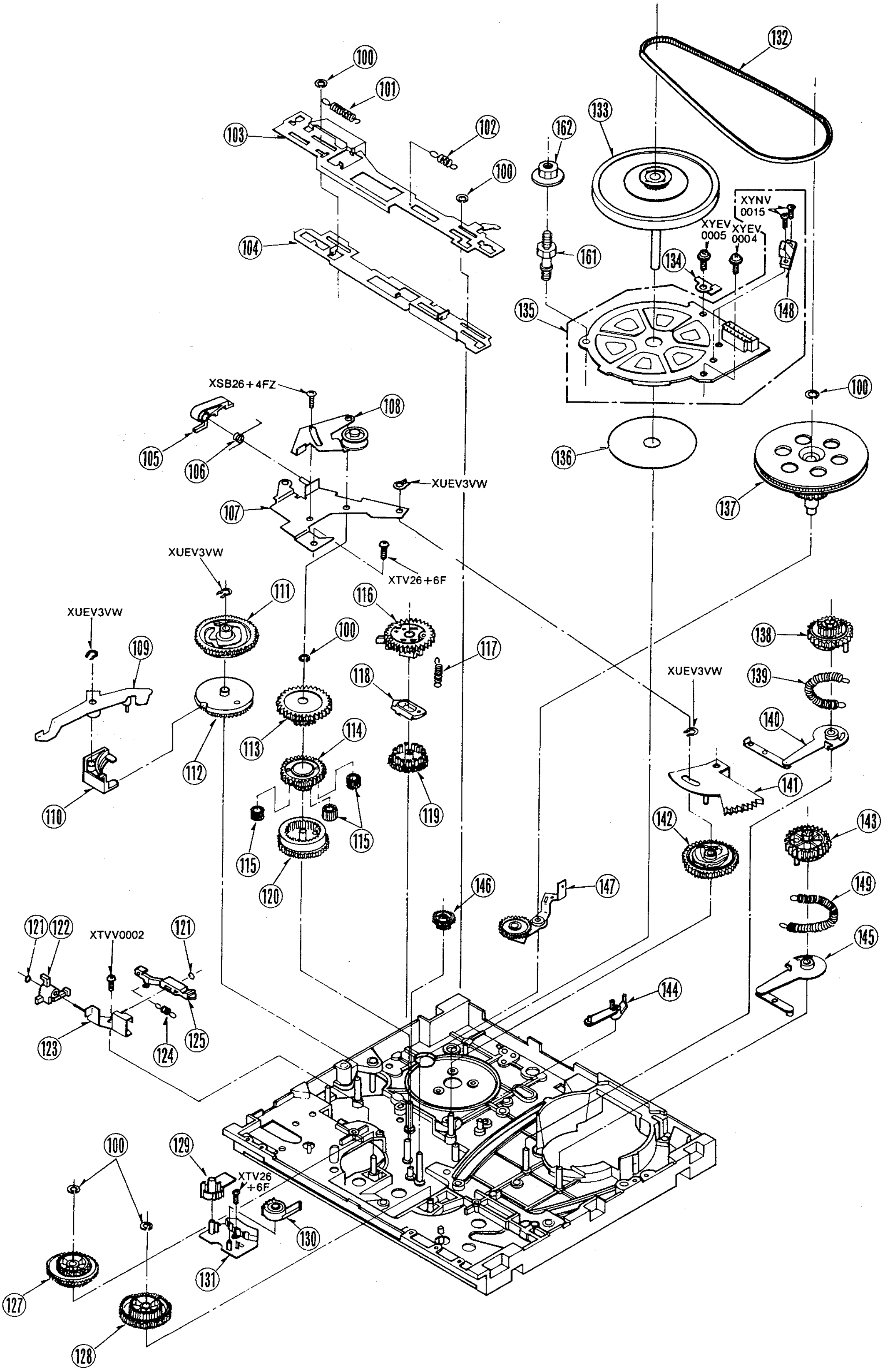
UN2216
DTC143TK

SECTION 4
EXPLODED VIEWS & PARTS LIST

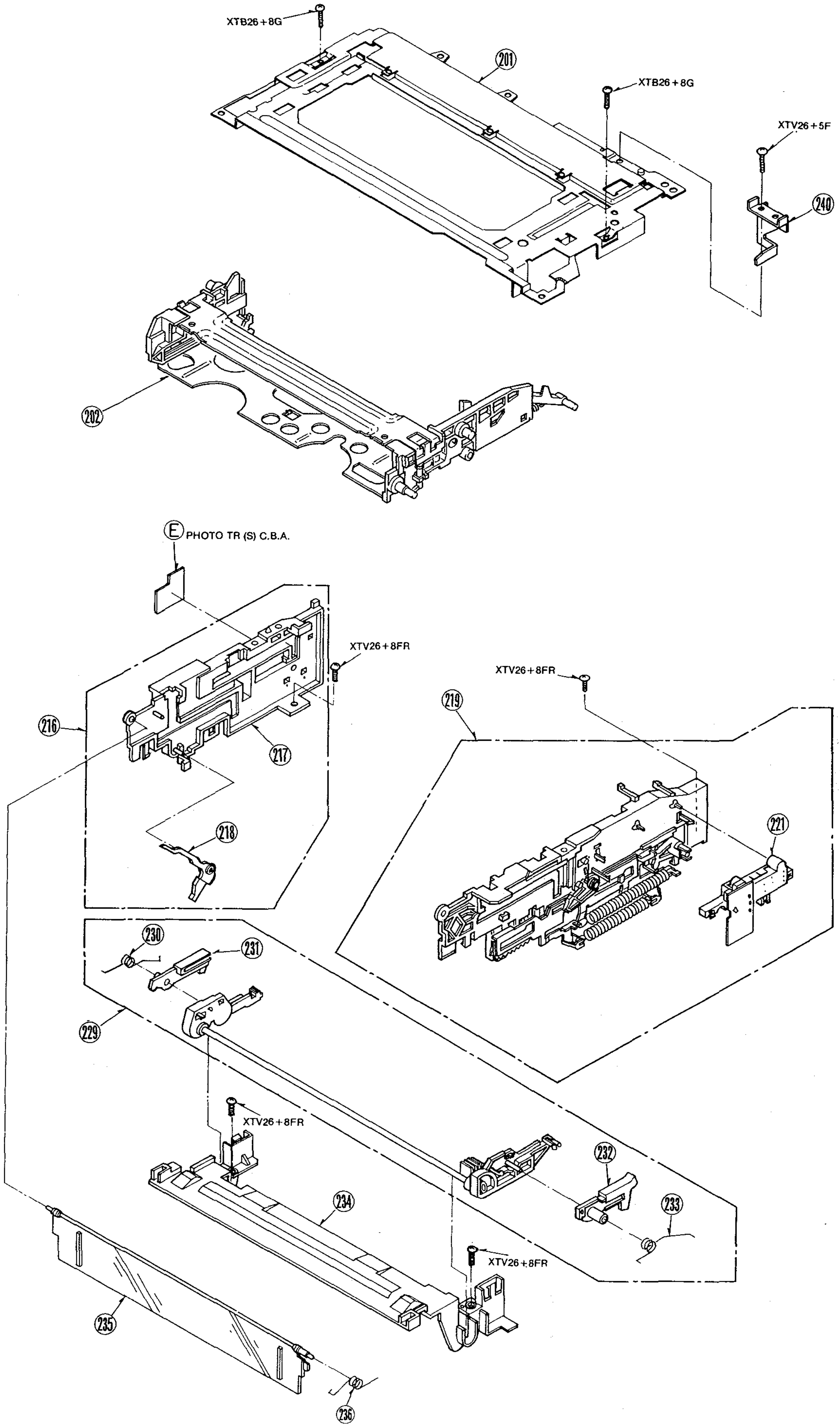
4-1. EXPLODED VIEW ❶ CHASSIS PARTS SECTION (1)


①
Ⓔ HEAD AMP C.B.A.
②
③
(NV-J4BA ONLY)
④
XTV2+4F
XTV26+6F
⑤
XTN3+6FFZ
⑪
XUEV25VW
⑫
⑬
⑥
⑩
⑦
⑧
㊹
㊼
XUEV3VW
⑭
⑮
⑯
XTVV0004
⑱
㊸
XTV26-6F
㉑
㉒
⑳
㉓
XTV26+8FFY
⑲
⑰
XTV26+10F
XUEV3VW
(71)
⑮
㉛
㉝
XSN3D6FZ
㉜
㉞
㉟
㊱
㊲
㊳
㊴
㊵
㊶
㊷
㊸
(76)
(72)
㊹
㊺
㊻
㊼
㊽
㊾
(51)
㊿
(52)
(53)
(54)
XWE3VW
(57)
XTV26+10F
(60)
(59)
(58)
(61)
XYN26+F6FZ
(59)
(62)
XTV26+10F
(60)
XTV26+6F
(80)
(63)
XTV26+6F
Ⓔ MECHANISM CONNECTION C.B.A.
XTV26+6F
XTVV0002
(55)
(81)
(82)
(88)
(89)
(90)
(84)
(85)
(86)
(87)
(83)
(70)
㉔
㉕
㉖
㉗
㉘
㉙
㉚
XTV26+6F
(77)
(64)
⑳
(65)
XTV26+6F
(67)
(69)
(66)
(68)

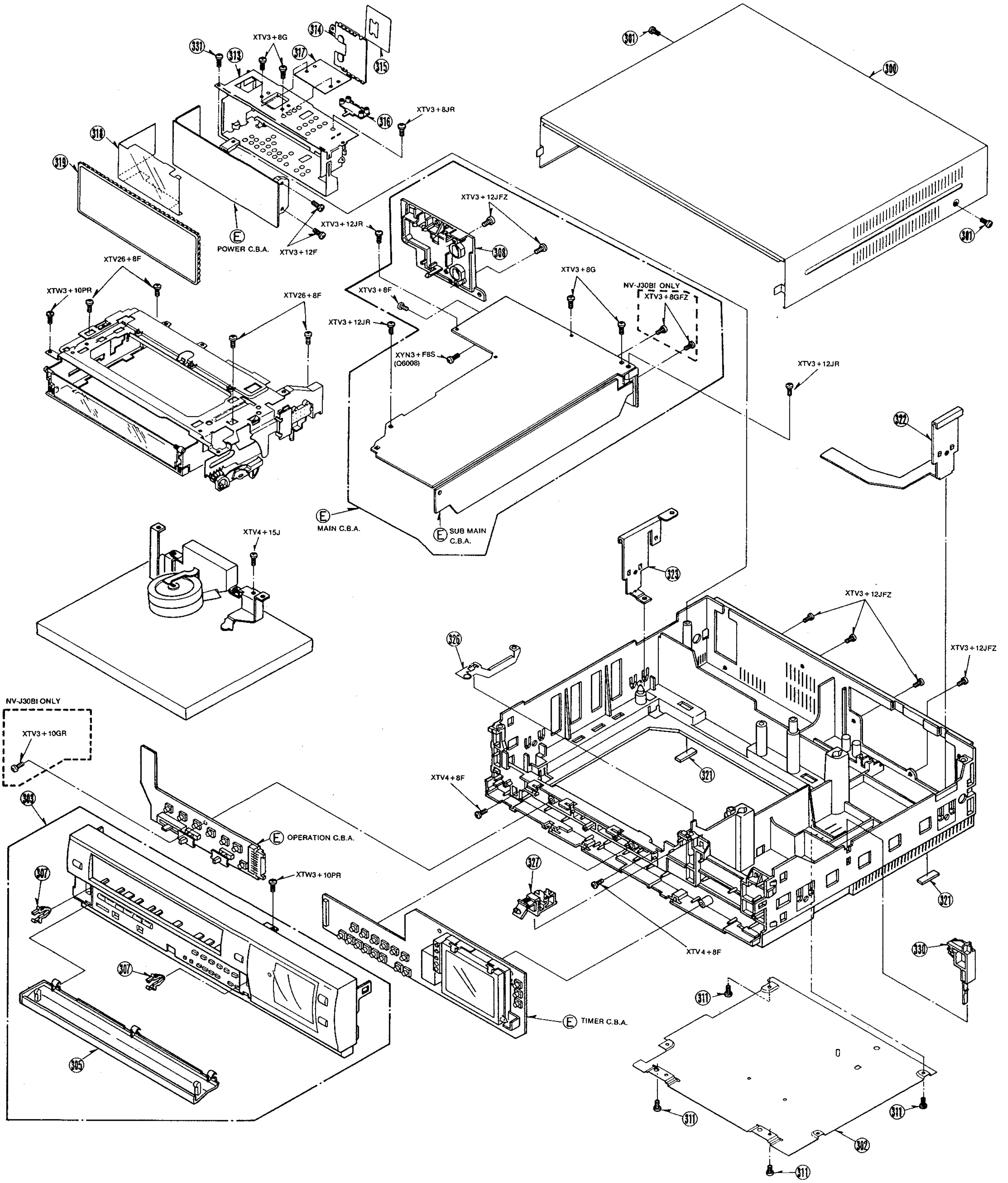
❷ CHASSIS PARTS SECTION (2)


100
101
102
103
104
132
133
162
161
XYNV
0015
XYEV
0005
XYEV
0004
134
148
135
100
136
137
XSB26+4FZ
108
105
106
107
XUEV3VW
XTV26+6F
XUEV3VW
111
116
XUEV3VW
109
100
117
118
138
XUEV3VW
139
140
113
114
112
110
119
115
115
141
142
143
120
146
147
149
121
122
XTVV0002
121
145
144
123
124
125
100
129
XTV26
+6F
130
131
127
128

❸ CASSETTE UP MECHANISM SECTION

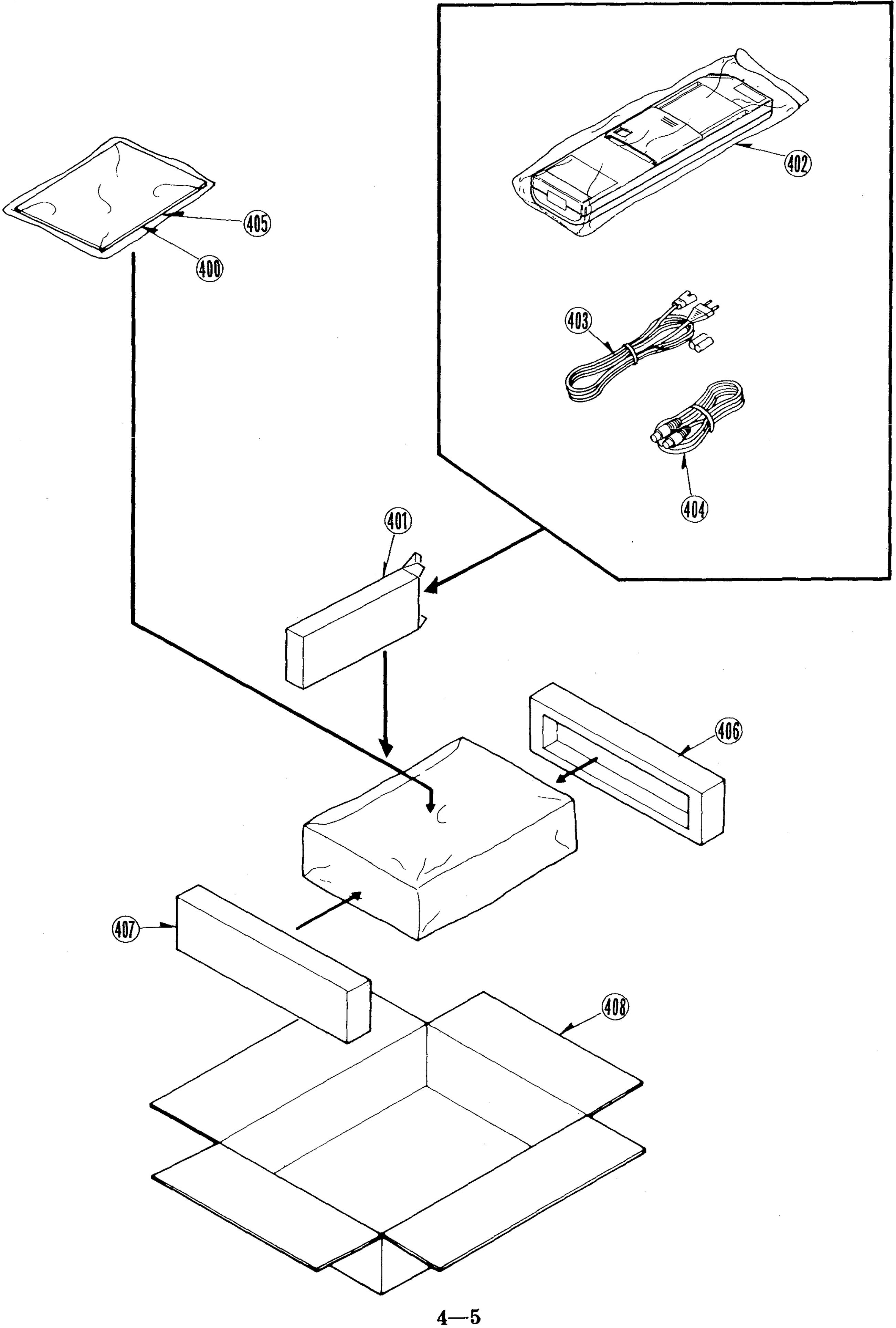

XTB26+8G
201
XTB26+8G
XTV26+5F
240
202
Ⓔ PHOTO TR (S) C.B.A.
XTV26+8FR
216
217
218
XTV26+8FR
219
221
230
231
229
XTV26+8FR
232
234
233
XTV26+8FR
235
236

❹ CASING PARTS SECTION



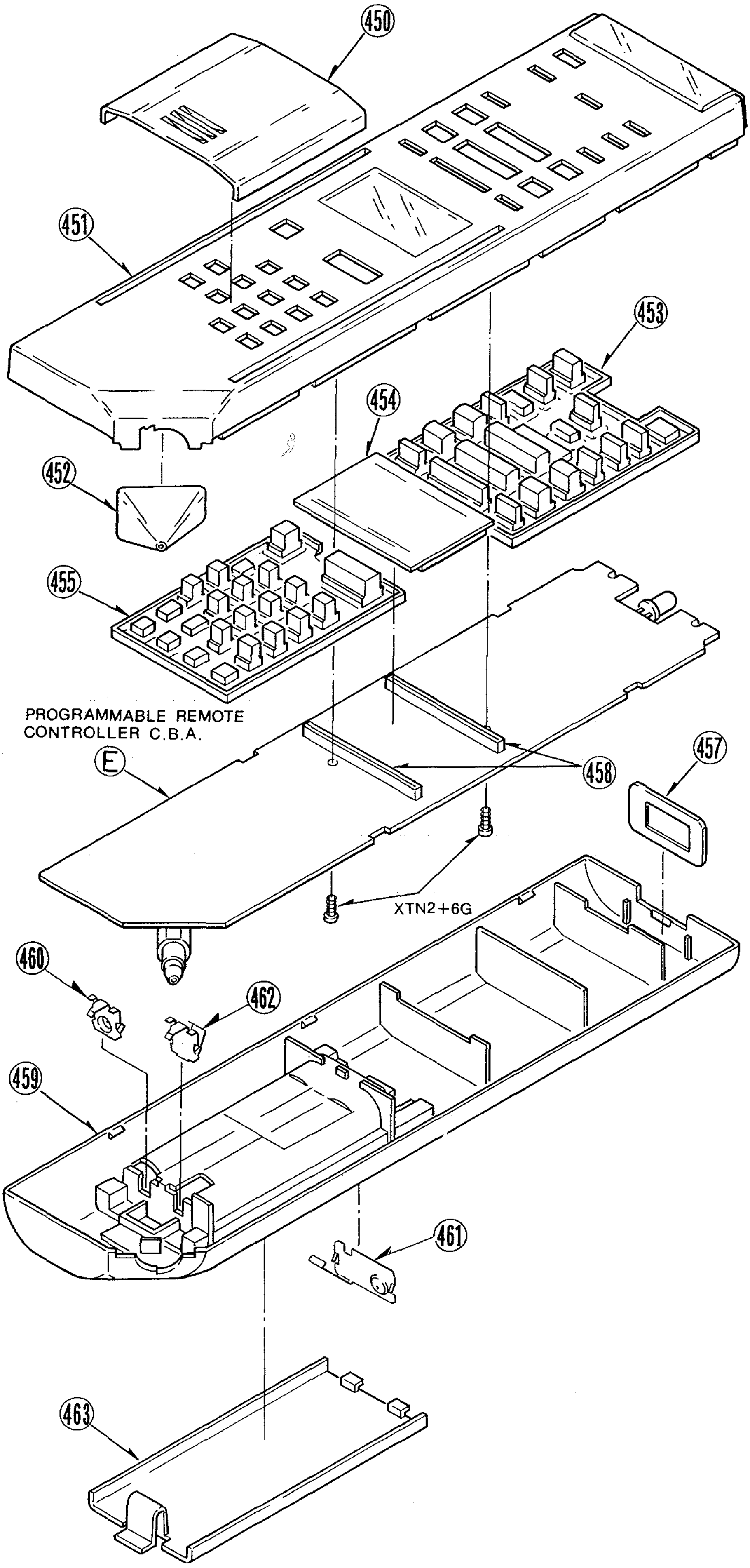
XTV3+8G
(331)
(313)
(314)
(317)
(315)
(316)
XTV3+8JR
(318)
(319)
E
POWER C.B.A.
XTV3+12F
(301)
(300)
(301)
XTV3+12JFZ
XTV3+12JR
(308)
XTV26+8F
XTW3+10PR
XTV26+8F
XTV3+8F
XTV3+8G
NV-J30BI ONLY
XTV3+8GFZ
XTV3+12JR
XYN3+F8S
(Q6008)
XTV3+12JR
(322)
E
MAIN C.B.A.
E
SUB MAIN C.B.A.
XTV4+15J
(323)
XTV3+12JFZ
(326)
XTV3+12JFZ
NV-J30BI ONLY
XTV3+10GR
(321)
XTV4+8F
(303)
E
OPERATION C.B.A.
XTW3+10PR
(307)
(327)
(321)
XTV4+8F
(330)
(307)
(311)
E
TIMER C.B.A.
(305)
(311)
(311)
(302)
(311)

❺ PACKING PARTS SECTION



402
405
400
403
404
401
406
407
408

❻ REMOTE CONTROLLER (BUILD IN DIGITAL SCANNER) UNIT


450
451
453
454
452
455
PROGRAMMABLE REMOTE CONTROLLER C.B.A.
E
458
457
XTN2+6G
460
462
459
461
463

4-2. MECHANICAL REPLACEMENT PARTS LIST

Note:1.* Be sure to make your orders of replacement parts according to this list.
2.IMPORTANT SAFETY NOTICE
Components identified with the mark <!> have the special characteristics for safety. When replacing any of these components,use only the same type.

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
********	NV-J4BA			
	NV-J30BI			
1(1)	VHD0141	HEAD AMP SET SCREW	2	
2(1)	VMA6897	HEAD AMP MOUNT ANGLE (L)	1	
3(1)	VMA6898	HEAD AMP MOUNT ANGLE (R)	1	
4(1)	VEK3185	DEW SENSOR UNIT	1	NV-J4BA
5(1)	VXS0082	EARTH PLATE UNIT	1	
6(1)	VEG0758	CYLINDER UNIT	1	<!>
7(1)	VEH0416	UPPER CYLINDER UNIT	1	<!>
8(1)	VJR0082	RT TERMINAL	1	
10(1)	VHD0425	UPPER CYLINDER SET SCREW	2	
11(1)	VXL1495	TENSION ARM (1) UNIT	1	
12(1)	VMB1563	TENSION SPRING	1	
13(1)	VXZ0267	TENSION BAND UNIT	1	
14(1)	VXR0185	SUPPLY REEL TABLE UNIT	1	
15(1)	VMX1171	REEL WASHER (0.5mm)	2	
15(1)	VMX1239	REEL WASHER (0.3mm)	2	
15(1)	VMX1238	REEL WASHER (0.2mm)	2	
16(1)	VXL1496	TENSION RELEASE ARM(A)UNIT	1	
17(1)	VBS0038	FE HEAD	1	
18(1)	VXA2705	TENSION ARM BASE (1) UNIT	1	
19(1)	VMA6895	MOUNT ANGLE (L)	1	
20(1)	VMX1079	CUT WASHER	2	
21(1)	VXL1497	TENSION RELEASE ARM(B)UNIT	1	
22(1)	VMB1582	TENSION RELEASE SPRING	1	
23(1)	VES0489	SAFETY SW	1	
24(1)	VXZ0259	SUPPLY MAIN BRAKE UNIT	1	
25(1)	VXZ0274	SUPPLY SOFT BRAKE(1)UNIT	1	
26(1)	VMB1564	SUPPLY SOFT BRAKE SPRING	1	
27(1)	VXZ0262	TAKE UP MAIN BRAKE UNIT	1	
28(1)	VXZ0221	TAKE UP SOFT BRAKE UNIT	1	
29(1)	VMB1561	TAKE UP SOFT BRAKE SPRING	1	
30(1)	VMA6896	MOUNT ANGLE (R)	1	
31(1)	VHD0322	ADJUST SCREW	1	
32(1)	VMB1251	ADJUST SPRING	1	
33(1)	VHD0089B	AZIMUTH ADJUST SCREW	1	
34(1)	VBR0132	A/C HEAD	1	
35(1)	VHN0063	M4 NYLON NUT	1	
36(1)	VHN0110	ADJUST NUT	1	
37(1)	VMA7831	HEAD BASE	1	
38(1)	VMB1567	A/C HEAD SPRING	1	
39(1)	VXL1857	SUB LOADING ARM (1) UNIT	1	
40(1)	VMB1566	SUB POST SPRING	1	
41(1)	VXQ0006	THRUST SCREW UNIT	1	
42(1)	VHD0317	HOUSING SCREW	2	
43(1)	VMX1033	OIL SEAL	2	
44(1)	VMX1353	PINCH CAM CAP	1	
45(1)	VXL1858	PRESSURE ROLLER UNIT	1	
46(1)	VMB1941	PIN PRESSURE SPRING	1	
47(1)	VML2232	PINCH PRESSURE ARM	1	
48(1)	VMB1569	PINCH PRESSURE ARM RELEASE SPRING	1	
49(1)	VML1874	PINCH LIFT ARM	1	
50(1)	VDG0597	P5 PULL OUT SECTOR GEAR	1	
51(1)	VDG0421	PINCH CAM	1	
52(1)	VHD0045	M3 NYLON NUT	1	
53(1)	VXL1485	P5 UNIT	1	
54(1)	VMB1554	P5 SPRING	1	
55(1)	VSS0175	MODE SW	1	
57(1)	VXP0863	ROLLER POST UNIT	1	
58(1)	VXA2729	INCLIND BASE (S)(1)UNIT	1	
59(1)	VHD0133	ROLLER POST SCREW	2	
60(1)	VMD0910	POST STOPPER	2	
61(1)	VXP0764A	ROLLER POST UNIT	1	
62(1)	VXA3876	INCLIND BASE(T)(1)UNIT	1	
63(1)	VXA2687	INCLIND ADJUST PLATE UNIT	1	
64(1)	VDG0483	PINCH SPEED DOWN GEAR	1	
65(1)	VDG0332	CONNECTION GEAR	1	
66(1)	VXA3735	SOLENOID UNIT	1	
67(1)	VXA2692	KICK ROD UNIT	1	
68(1)	VML1849	SOLENOID LEVER (1) UNIT	1	
69(1)	VMB1553	KICK ROD SPRING	1	
70(1)	VMB1958	MAIN BRAKE SPRING	1	
71(1)	VXR0188	TAKE UP REEL TABLE UNIT	1	
72(1)	VXD0101	HOUSING UNIT	1	
76(1)	VHD0374	HOUSING SCREW	1	
77(1)	VHD0342	CYLINDER SCREW	3	
80(1)	VXA3520	LED HOLDER UNIT	1	
81(1)	VMA7844	REINFORCEMENT PLATE (F)	1	
82(1)	VMA7845	REINFORCEMENT PLATE (R)	1	
83(1)	VMB1733	LEAF SPRING	1	
84(1)	VMX1088	SUPPLY UPPER LIMITER	1	
85(1)	VDP1072	SUPPLY ROLLER	1	
86(1)	VMX1581	P1 COLLAR	1	
87(1)	VMX1533	SUPPLY ROLLER LIMITER	1	
88(1)	VMX1544	P4 UPPER LIMITER	1	
89(1)	VMX1568	P4 SLEEVE	1	
90(1)	VMX1534	P4 LOWER LIMITER	1	
100(2)	VMX1079	CUT WASHER	6	
101(2)	VMB1583	TAKE UP SOFT BRAKE RELEASE ARM SPRING	1	
102(2)	VMB1560	MAIN LEVER SPRING	1	
103(2)	VXA3509	MAIN LEVER (1) UNIT	1	
104(2)	VMM0215	SUB LEVER	1	
105(2)	VXL1873	SS BRAKE ARM UNIT	1	
106(2)	VMB1588	SS BRAKE SPRING	1	
107(2)	VXA3512	SS BRAKE BASE (1) UNIT	1	
108(2)	VXA3516	TENSION ROLLER UNIT	1	
109(2)	VXL1632	CAM FOLLOWER ARM UNIT	1	
110(2)	VML1861	DETENT ARM	1	
111(2)	VDG0574	MAIN CAM GEAR	1	
112(2)	VDG0343	SUB CAM GEAR	1	
113(2)	VDG0348	CENTRE GEAR	1	
114(2)	VDG0422	RETAINER GEAR	1	
115(2)	VDG0345	PLANET GEAR	3	
116(2)	VDG0547	CLUTCH DISK	1	
117(2)	VMB1558	CLUTCH SPRING	1	
118(2)	VDG0350	LOCK SLIDE GEAR	1	
119(2)	VDG0335	DRIVE DISK	1	
120(2)	VDG0342	RING GEAR	1	
121(2)	VMX0967	CUT WASHER	2	
122(2)	VML1859	CHANGE LEVER	1	
123(2)	VXA2672	RELEASE LEVER (1) UNIT	1	
124(2)	VMB1557	RELEASE SPRING	1	
125(2)	VML1860	RELEASE LEVER	1	
127(2)	VXP1002	TAKE UP REEL GEAR UNIT	1	
128(2)	VDG0445	SUPPLY REEL GEAR	1	
129(2)	VML1858	RETURN LEVER (R)	1	
130(2)	VML1857	RETURN LEVER (L)	1	
131(2)	VMD0913	STOPPER BASE	1	
132(2)	VDV0169	TIMING BELT	1	
133(2)	VXP1113	ROTOR UNIT	1	
134(2)	VMA7941	ROTOR STOPPER	1	
135(2)	VEK4105	STATOR UNIT	1	<!>
136(2)	VMA6847	SUB PLATE	1	
137(2)	VXP0917	CENTRE PULLEY UNIT	1	
138(2)	VDG0564	LOADING GEAR (T)	1	
139(2)	VMB1555	LOADING SPRING (T)	1	
140(2)	VXL1489	LOADING ARM (T)(1) UNIT	1	
141(2)	VXA3515	SECTOR GEAR UNIT	1	
142(2)	VDG0448	LOADING CAM GEAR	1	
143(2)	VDG0419	LOADING GEAR (S)	1	
144(2)	VML1855	PLAY CONTROL ARM	1	
145(2)	VXL1487	LOADING ARM (S)(1) UNIT	1	
146(2)	VDG0546	INTERMEDIATE GEAR	1	
147(2)	VXL1861	PLAY ARM UNIT	1	
148(2)	VBK0048	FG HEAD	1	
149(2)	VMB1746	LOADING SPRING(S)	1	
161(2)	VHD0431	STATOR SPACER SCREW	1	
162(2)	VHN0102	STATOR NUT	1	
201(3)	VMA7223	TOP PLATE	1	
202(3)	VXA3832	CASSETTE HOLDER UNIT	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
216(3)		VXA2676	SIDE PLATE (L) UNIT	1	
217(3)		VMD0917	SIDE PLATE (L)	1	
218(3)		VML1880	OPENER LEVER	1	
219(3)		VXA3895	SIDE PLATE (R) UNIT	1	
221(3)		VXA4642	SLIDE SW UNIT	1	
229(3)		VXP0987	MAIN SHAFT UNIT	1	
230(3)		VMB1836	SUB WIPER SPRING (L)	1	
231(3)		VML1878	SUB WIPER ARM (L)	1	
232(3)		VML1879	SUB WIPER ARM (R)	1	
233(3)		VMB1837	SUB WIPER SPRING (R)	1	
234(3)		VMA6900	CASSETTE GUIDE	1	
235(3)		VKF1471	BLINDER PANEL	1	
236(3)		VMB1258	BLINDER SPRING	1	
240(3)		VMA7224	CASSETTE HOLDER ANGLE	1	
300(4)		VGM0624	TOP PANEL	1	
301(4)		VHD0304	TOP PANEL SCREW	2	
302(4)		VKU0245	BOTTOM PLATE	1	
303(4)		VYP3223	FRONT PANEL UNIT	1	[SUPPLIED FROM M.B.V]
					NV-J30BI
303(4)		VYP3226	FRONT PANEL UNIT	1	NV-J4BA
305(4)		VYF1503	FRONT DOOR UNIT	1	[SUPPLIED FROM M.B.V]
					NV-J30BI
305(4)		VYF1542	FRONT DOOR UNIT	1	NV-J4BA
307(4)		VGQ0550	DOOR LOCK PIECE	2	
308(4)		VEJ0797	ANT. TERMINAL PLATE	1	
311(4)		VHD0059	BOTTOM PLATE SCREW	4	
313(4)		VXA3635	POWER SHIELD CASE(MAIN)UNIT	1	
314(4)		VSC2351	POWER SHIELD COVER (TOP)	1	
315(4)		VGH1476	NAME PLATE	1	
316(4)		VGQ1377	IC. HOLDER	1	
317(4)		VMZ1224	INSULATION SHEET	1	
318(4)		VMZ1140	SW BARRIER(A)	1	
319(4)		VSC2237	POWER SHIELD COVER(BOTTOM)	1	
321(4)		VKA0084	RUBBER FOOT	2	
322(4)		VMP1994	TOP HOLDER ANGLE (RR)	1	
323(4)		VMP1995	TOP HOLDER ANGLE (RL)	1	
326(4)		VMA7949	EARTH ANGLE	1	
327(4)		VKC0327	TIMER HINGE (A)	1	
330(4)		VJF0707	MAIN C.B.A. HOLDER	1	
331(4)		VHD0141	MAIN SCREW	1	
400(5)		VQT3768	OPERATING INSTRUCTIONS	1	[SUPPLIED FROM M.B.V]
			(ENGLISH)		<!> NV-J30BI
400(5)		VQT3714	OPERATING INSTRUCTIONS	1	<!> NV-J4BA
			(ENGLISH/AFRIKAANS)		
401(5)		VPK0825	ACCESSORIES BOX	1	
402(5)		VEQ1107	REMOTE CONTROL UNIT	1	[SUPPLIED FROM M.B.V]
			(BUILD IN DIGITAL SCANNER)		NV-J30BI
402(5)		VEQ1149	REMOTE CONTROL UNIT	1	
			(BUILD IN DIGITAL SCANNER)		NV-J4BA
403(5)		VJA0568	AC POWER CORD	1	<!>
404(5)		VJA0376	DIN RF CABLE	1	
405(5)		VQC1366	PROGRAMME SHEET	1	[SUPPLIED FROM M.B.V]
					NV-J30BI
405(5)		VQC1317	PROGRAMME SHEET	1	NV-J4BA
406(5)		VPN2356	CUSHION (R)	1	
407(5)		VPN2357	CUSHION (L)	1	
408(5)		VPG5442	PACKING	1	[SUPPLIED FROM M.B.V]
					NV-J30BI
408(5)		VPG5443	PACKING	1	NV-J4BA
450(6)		VKF1445	SLIDING LID	1	
451(6)		VYK3000	TOP COVER UNIT	1	[SUPPLIED FROM M.B.V]
					NV-J30BI
451(6)		VYK3187	TOP COVER UNIT	1	NV-J4BA
452(6)		VGQ1640	SENSOR CAP	1	
453(6)		VSP0507	RUBBER CONTACT (A)	1	
454(6)		VSL0200	LCD	1	
455(6)		VSP0508	RUBBER CONTACT (B)	1	
457(6)		VKW0878	IR WINDOW	1	
458(6)		VMT0297	CONDUCTIVE RUBBER	2	
459(6)		VKM2169	BOTTOM COVER	1	
460(6)		VJR0585	ELECTRODE(+)	1	
461(6)		VJR0498	ELECTRODE(COM.)	1	
462(6)		VJR0584	ELECTRODE(-)	1	
463(6)		VKF1455	BATTERY COVER	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
			SERVICING FIXTURES & TOOLS		
		VFJ8125H3F	VHS ALIGNMENT TAPE	1	
		VFK0335	RETAINING RING REMOVER	1	(3mm/4mm)
		VFK0387	TENSION POST ADJUSTMENT	1	
			PLATE		
		VFK0191	POST ADJUSTMENT PLATE	1	
		VFK0190	REEL TABLE HEIGHT GAUGE	1	
		VFK0328	H-POSITION ADJUSTMENT	1	
			SCREWDRIVER		
		VFK0329	POST ADJUSTMENT SCREWDRIVER	1	
		VFK62	FAN TYPE TENSION GAUGE	1	
		VFK0326	HEX WRENCH SET	1	
		VFK0132	BACK TENSION METER	1	
		VFK0343	CHECK LIGHT	1	
		VFK0344	HEIGHT ADJUSTMENT JIG	1	
		VFK27	HEAD CLEANING STICK	1	
		MOR265	MORLYTONE GREASE	1	
		VFK0341	UPPER CYLINDER REMOVER	1	

4-3. ELECTRICAL REPLACEMENT PARTS LIST

Note:1.* Be sure to make your orders of replacement parts according to this list.
2. IMPORTANT SAFETY NOTICE
Components identified with the mark <!> have the special characteristics for safety. When replacing any of these components, use only the same type.
3. Unless otherwise specified,
All resistors are in OHMS, K=1,000 OHMS. All capacitors are in MICRO-FARADS(uf), P=uuF.
4. The P.C.Board units marked width'■'show below the main assembled parts.

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
**********		NV-J4BA			
		NV-J30BI			
		VEP03764K	MAIN C.B.A.	1	<!> (NLA) NV-J4BA INCLUDING THE SUB MAIN C.B.A. (VEP03765E), TV DEMODULATOR C.B.A. (VEP07592N), CYLINDER DRIVE C.B.A. (VEP02329A), OSC C.B.A. (VEP06583B).
		VEP03764J	MAIN C.B.A.	1	[SUPPLIED FROM M.B.V] <!> (NLA) NV-J30BI INCLUDING THE SUB MAIN C.B.A. (VEP03765E), INPUT/OUTPUT C.B.A. (VEP03594C), TV DEMODULATOR C.B.A. (VEP07592M), CYLINDER DRIVE C.B.A. (VEP02329A), OSC C.B.A. (VEP06583B).
		VEP03765E	SUB MAIN C.B.A.	1	(NLA) INCLUDED IN MAIN C.B.A.(VEP03764K/J).
		VEP03594C	INPUT/OUTPUT C.B.A.	1	[SUPPLIED FROM M.B.V] (NLA) NV-J30BI INCLUDED IN MAIN C.B.A.(VEP03764J).
		VEP07592N	TV DEMODULATOR C.B.A.	1	(NLA) NV-J4BA INCLUDED IN MAIN C.B.A.(VEP03764K).
		VEP07592M	TV DEMODULATOR C.B.A.	1	[SUPPLIED FROM M.B.V] (NLA) NV-J30BI INCLUDED IN MAIN C.B.A.(VEP03764J).
		VEP02329A	CYLINDER DRIVE C.B.A.	1	(NLA) INCLUDED IN MAIN C.B.A.(VEP03764K/J).
		VEP06583B	OSC C.B.A.	1	(NLA) INCLUDED IN MAIN C.B.A.(VEP03764K/J).
		VEP05137B	HEAD AMP C.B.A.	1	(NLA)
		VEP07597H	TIMER C.B.A.	1	(NLA) NV-J4BA INCLUDING THE IR RECEIVER C.B.A. (VEP06500G).

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
		VEP07597G	TIMER C.B.A.	1	[SUPPLIED FROM M.B.V] (NLA) NV-J30BI INCLUDING THE IR RECEIVER C.B.A. (VEP06500G).
		VEP06500G	IR RECEIVER C.B.A.	1	(NLA) INCLUDED IN TIMER C.B.A.(VEP07597H/G).
		VEP06680A	OPERATION C.B.A.	1	(NLA)
		VEP01420AA	POWER C.B.A.	1	<!> (NLA)
		VEP66125D	REMOTE CONTROL UNIT C.B.A.	1	(NLA)
		VXA3820	MECHANISM CONNECTION C.B.A.	1	(NLA)
		VEK3578	SUPPLY PHOTO Tr. C.B.A.	1	(NLA)
			TAKE-UP PHOTO Tr. C.B.A.	1	
		ENC17972B	RF CONVERTER	1	<!>
		ENV79819H3	TUNER	1	<!> NV-J4BA
		ENV59835H3	TUNER	1	[SUPPLIED FROM M.B.V] <!> NV-J30BI
	■	VEP03764K	MAIN C.B.A.		(NLA)NV-J4BA
	■	VEP03764J	MAIN C.B.A.		[SUPPLIED FROM M.B.V] (NLA)NV-J30BI
			CAPACITORS		
C301		ECEA1EKN2R2	E.CAPACITOR 25V 2.2U	1	
C302		ECEA0JK220	E.CAPACITOR 6.3V 22U	1	
C303		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C304		ECEA0JU331	E.CAPACITOR 6.3V 330U	1	
C305		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C306		ECEA1EK4R7	E.CAPACITOR 25V 4.7U	1	
C307		ECUM1H470JCN	C.CAPACITOR CH 50V 47P	1	
C308		ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	
C310		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C311,12		ECUM1H180JCN	C.CAPACITOR CH 50V 18P	2	
C313		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C314		ECUM1H121JCN	C.CAPACITOR CH 50V 120P	1	
C315		ECUM1H560JCN	C.CAPACITOR CH 50V 56P	1	
C317		ECEA1AK470	E.CAPACITOR 10V 47U	1	
C319		ECUM1H471KBN	C.CAPACITOR CH 50V 470P	1	
C320		ECUM1H270JCN	C.CAPACITOR CH 50V 27P	1	
C321		ECEA1HK010	E.CAPACITOR 50V 1U	1	
C322		ECEA1HK2R2	E.CAPACITOR 50V 2.2U	1	
C324		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C325,26		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C327,28		ECEA1CK100	E.CAPACITOR 16V 10U	2	
C329		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C331		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C332		ECQV1H334JZ	P.CAPACITOR 50V 0.33U	1	
C333		ECEA1HK4R7	E.CAPACITOR 50V 4.7U	1	
C334		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C334		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C335		ECUM1H680JCN	C.CAPACITOR CH 50V 68P	1	
C336		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C337		ECUM1H270JCN	C.CAPACITOR CH 50V 27P	1	
C338		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C339		ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	
C340		ECEA1EK4R7	E.CAPACITOR 25V 4.7U	1	
C349		ECUM1H470JCN	C.CAPACITOR CH 50V 47P	1	
C351		ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	
C352		ECQB1H562JH	P.CAPACITOR 50V 5600P	1	
C353		ECUM1H560JCN	C.CAPACITOR CH 50V 56P	1	
C360		ECUM1H153ZFN	C.CAPACITOR CH 50V 0.015U	1	
C701		ECEA1EK4R7	E.CAPACITOR 25V 4.7U	1	
C702		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C703		ECEA1HK2R2	E.CAPACITOR 50V 2.2U	1	
C705		ECEA1EK4R7	E.CAPACITOR 25V 4.7U	1	
C706		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C707		ECEA1HKR47	E.CAPACITOR 50V 0.47U	1	NV-J4BA
C708		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C709		ECEA1EK4R7	E.CAPACITOR 25V 4.7U	1	NV-J30BI
C710		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C717-20		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	4	
C721		ECEA1HKR27K	E.CAPACITOR 50V 0.27U	1	
C722		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C723		ECUM1H102JCN	C.CAPACITOR CH 50V 0.001U	1	NV-J4BA
C725		ECQV1H104JZ	P.CAPACITOR 50V 0.1U	1	
C728		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C730		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C731		ECEA1CKS100	E.CAPACITOR 16V 10U	1	
C732		ECQV1H224BO	P.CAPACITOR 50V 0.22U	1	
C734		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C735		ECUM1H070DCN	C.CAPACITOR CH 50V 7P	1	
C736		ECQB1H103JH	P.CAPACITOR 50V 0.01U	1	
C737		ECUM1H151JCN	C.CAPACITOR CH 50V 150P	1	
C739		ECEA1HK010	E.CAPACITOR 50V 1U	1	
C740		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C741		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C742		ECUM1H030CCN	C.CAPACITOR CH 50V 3P	1	
C743		ECUM1H270JSN	C.CAPACITOR CH 50V 27P	1	
C744		ECEA1HKR47	E.CAPACITOR 50V 0.47U	1	
C745		ECUM1H680JPN	C.CAPACITOR CH 50V 68P	1	
C746		ECUM1H150JCN	C.CAPACITOR CH 50V 15P	1	
C747		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	NV-J4BA
C748		ECEA1CK330	E.CAPACITOR 16V 33U	1	NV-J30BI
C748		ECEA1CK100	E.CAPACITOR 16V 10U	1	NV-J4BA
C749		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C760		ECQV1H563JZ	P.CAPACITOR 50V 0.056U	1	
C781		ECUM1H390JCN	C.CAPACITOR CH 50V 39P	1	NV-J4BA
C782		ECUM1H060DCN	C.CAPACITOR CH 50V 6P	1	NV-J30BI
C782		ECUM1H330JCN	C.CAPACITOR CH 50V 33P	1	NV-J4BA
C797-99		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	3	NV-J4BA
C814		ECEA1AK101	E.CAPACITOR 10V 100U	1	
C815		ECQV1H154JZ	P.CAPACITOR 50V 0.15U	1	
C816		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C817		ECQV1H124JZ	P.CAPACITOR 50V 0.12U	1	
C818		ECUM1H391KBN	C.CAPACITOR CH 50V 390P	1	
C819		ECUM1H820JCN	C.CAPACITOR CH 50V 82P	1	
C820		ECEA1HK2R2	E.CAPACITOR 50V 2.2U	1	
C821		ECEA1HFS4R7	E.CAPACITOR 50V 4.7U	1	
C823		ECEA1HK2R2	E.CAPACITOR 50V 2.2U	1	
C824		ECEA1HK010	E.CAPACITOR 50V 1U	1	
C825		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C826		ECEA1AU221	E.CAPACITOR 10V 220U	1	
C827		ECUM1H050DCN	C.CAPACITOR CH 50V 5P	1	
C828		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C829		ECQV1H474JZ	P.CAPACITOR 50V 0.47U	1	
C831,32		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	2	
C833		ECUM1H471KBN	C.CAPACITOR CH 50V 470P	1	
C1001		ECEA1CK470	E.CAPACITOR 16V 47U	1	
C1003		ECEA0JK101	E.CAPACITOR 6.3V 100U	1	
C1004		ECEA1CK470	E.CAPACITOR 16V 47U	1	
C2001		ECEA0JK221	E.CAPACITOR 6.3V 220U	1	
C2002		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C2003		ECQB1H472JZ	P.CAPACITOR 50V 4700P	1	
C2004		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C2005		ECQV1H394JZ	P.CAPACITOR 50V 0.39U	1	
C2006		ECEA0JK470	E.CAPACITOR 6.3V 47U	1	
C2007		ECUM1H472KBN	C.CAPACITOR CH 50V 4700P	1	
C2008		ECEA1HKN010	E.CAPACITOR 50V 1U	1	
C2009		ECEA1CKN100	E.CAPACITOR 16V 10U	1	
C2010		ECEA1HKR47	E.CAPACITOR 50V 0.47U	1	
C2011		ECUM1H562KBN	C.CAPACITOR CH 50V 5600P	1	
C2012		VCYD1E473KR	S.CAPACITOR 25V 0.047U	1	
C2013		ECEA1HK4R7	E.CAPACITOR 50V 4.7U	1	
C2014		ECEA0JK221	E.CAPACITOR 6.3V 220U	1	
C2015		ECEA0JK101U	E.CAPACITOR 6.3V 100U	1	
C2016		ECQB1H223JZ	P.CAPACITOR 50V 0.022U	1	
C2017		ECEA0JK221	E.CAPACITOR 6.3V 220U	1	
C2018		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C2019		ECEA1HKN2R2	E.CAPACITOR 50V 2.2U	1	
C2020		VCYD1E473KR	S.CAPACITOR 25V 0.047U	1	
C2022		ECEA1HKN2R2	E.CAPACITOR 50V 2.2U	1	
C2024		ECQV1H104JZ	P.CAPACITOR 50V 0.1U	1	
C2025		ECQV1H683JZ	P.CAPACITOR 50V 0.068U	1	
C2026		ECQV1H224JZ	P.CAPACITOR 50V 0.22U	1	
C2027		ECEA1HKR47	E.CAPACITOR 50V 0.47U	1	
C2028		ECQB1H333JZ	P.CAPACITOR 50V 0.033U	1	
C2029		ECEA0JK470	E.CAPACITOR 6.3V 47U	1	
C2030		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C2031		ECQV1H104JZ	P.CAPACITOR 50V 0.1U	1	
C2033		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C2034		ECEA0JK330	E.CAPACITOR 6.3V 33U	1	
C2050		ECEA0JK221	E.CAPACITOR 6.3V 220U	1	
C2101-03		ECQB1H333JZ	P.CAPACITOR 50V 0.033U	3	
C2104-06		ECEA1HK2R2	E.CAPACITOR 50V 2.2U	3	
C2107,08		VCYD1E333KR	S.CAPACITOR 25V 0.033U	2	
C2111		ECEA1CK101	E.CAPACITOR 16V 100U	1	
C2115		ECEA1CK470	E.CAPACITOR 16V 47U	1	
C2116		ECEA1EU221	E.CAPACITOR 25V 220U	1	
C2118		VCYD1E333KR	S.CAPACITOR 25V 0.033U	1	
C2121		ECQV1H184JZ	P.CAPACITOR 50V 0.18U	1	
C2201		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C2203		ECQV1H104JZ	P.CAPACITOR 50V 0.1U	1	
C2204-06		ECEA1HK0R1	E.CAPACITOR 50V 0.1U	3	
C2207		ECQV1H104JZ	P.CAPACITOR 50V 0.1U	1	
C2208-10		ECEA1VKN4R7	E.CAPACITOR 35V 4.7U	3	
C2211		ECQB1H473JH	P.CAPACITOR 50V 0.047U	1	
C2212		ECEA0JK101	E.CAPACITOR 6.3V 100U	1	
C2213		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C3001		ECEA1CK470	E.CAPACITOR 16V 47U	1	
C3002		ECEA0JU471	E.CAPACITOR 6.3V 470U	1	
C3003,04		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C3010		ECUM1H151JCN	C.CAPACITOR CH 50V 150P	1	
C3011		ECUM1H330JCN	C.CAPACITOR CH 50V 33P	1	
C3012		ECUM1H681KBN	C.CAPACITOR CH 50V 680P	1	
C3013		ECEA1HKN010	E.CAPACITOR 50V 1U	1	
C3014		ECUM1H330JCN	C.CAPACITOR CH 50V 33P	1	
C3015		VCYD1E103KR	S.CAPACITOR 25V 0.01U	1	
C3016		ECEA0JK470	E.CAPACITOR 6.3V 47U	1	
C3019		ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	
C3053		ECEA0JK101	E.CAPACITOR 6.3V 100U	1	
C3064		ECQB1H103JZ	P.CAPACITOR 50V 0.01U	1	
C3065		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	NV-J30BI
C3067,68		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C3070		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3071		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	NV-J30BI
C3076		ECUM1H180JCN	C.CAPACITOR CH 50V 18P	1	
C3081		ECEA1CK220	E.CAPACITOR 16V 22U	1	
C3101		ECEA0JK470	E.CAPACITOR 6.3V 47U	1	
C3102		ECEA1CK470	E.CAPACITOR 16V 47U	1	
C3103,04		ECUM1H332KBN	C.CAPACITOR CH 50V 3300P	2	
C3105		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C3901,02		ECEA1CK330	E.CAPACITOR 16V 33U	2	NV-J30BI
C3903		ECEA1HK010	E.CAPACITOR 50V 1U	1	NV-J30BI
C3904-06		ECEA1CK470	E.CAPACITOR 16V 47U	3	NV-J30BI
C3907,08		ECEA1HK2R2	E.CAPACITOR 50V 2.2U	2	NV-J30BI
C3909		ECEA1HKR47	E.CAPACITOR 50V 0.47U	1	NV-J30BI
C3914		ECUM1H222KBN	C.CAPACITOR CH 50V 2200P	1	NV-J30BI
C3916		ECUM1H471KBN	C.CAPACITOR CH 50V 470P	1	NV-J30BI
C4001		ECQB1H153JZ	P.CAPACITOR 50V 0.015U	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C4002		ECEA16M33	E.CAPACITOR 16V 33U	1	
C4003		ECKF1H102ZF	C.CAPACITOR 50V 1000P	1	
C4004		ECQP1332JZ	P.CAPACITOR 100V 3300P	1	
C4005		ECCD2H121K	C.CAPACITOR 500V 120P	1	
C4006		ECEA1CK470	E.CAPACITOR 16V 47U	1	
C4007		ECEA1CK330	E.CAPACITOR 16V 33U	1	
C4008		ECEA1HK010	E.CAPACITOR 50V 1U	1	
C4009		ECEA1EK4R7	E.CAPACITOR 25V 4.7U	1	
C4012		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C4013		ECUM1H681JN	C.CAPACITOR CH 50V 680P	1	
C4015		ECEA16M10R	E.CAPACITOR 16V 10.U	1	
C4016		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C4017		ECEA10M47	E.CAPACITOR 10V 47U	1	
C4018		ECQB1H822JZ	P.CAPACITOR 50V 8200P	1	
C4019		ECEA1CKS100	E.CAPACITOR 16V 10U	1	
C4020		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C4021		ECEA1AK101	E.CAPACITOR 10V 100U	1	
C4022		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C4023		ECUM1H221JCN	C.CAPACITOR CH 50V 220P	1	
C4024,25		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	2	
C4026		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C4029		ECQB1H123JZ	P.CAPACITOR 50V 0.012U	1	
C4033		ECQB1H102JH	P.CAPACITOR 50V 1000P	1	NV-J30BI
C4033		ECQB1H102JZ	P.CAPACITOR 50V 1000P	1	NV-J4BA
C6001,02		ECEA0JK470	E.CAPACITOR 6.3V 47U	2	
C6005		ECEA1CK330	E.CAPACITOR 16V 33U	1	
C6006		ECEA0JK330	E.CAPACITOR 6.3V 33U	1	
C6007		VCYD1C104MR1	S.CAPACITOR 16V 0.1U	1	
C6008		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C6010		ECUM1H332KBN	C.CAPACITOR CH 50V 3300P	1	
C6011,12		ECUM1H271JCN	C.CAPACITOR CH 50V 270P	2	
C6013		ECKF1H103ZF	C.CAPACITOR 50V 0.01U	1	
C6014		ECEA1CK220	E.CAPACITOR 16V 22U	1	
C6015		ECEA1CK330	E.CAPACITOR 16V 33U	1	
C6023		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C6025		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C6101		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C6102		ECQV1H104JZ	P.CAPACITOR 50V 0.1U	1	
C6103		ECEA0JK470	E.CAPACITOR 6.3V 47U	1	
C6104		ECUM1H181JCN	C.CAPACITOR CH 50V 180P	1	
C6105		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C6106		ECUM1H150JCN	C.CAPACITOR CH 50V 15P	1	
C7401		ECEA0JU221	E.CAPACITOR 6.3V 220U	1	
C7402		EECS5R5V473	E.CAPACITOR 5.5V 0.047U	1	NV-J30BI
C7402		EECS5R5V105	E.CAPACITOR 5.5V 1U	1	NV-J30BI
C7408		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C7409		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C7410		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C7421		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C7422		ECUM1H272KBN	C.CAPACITOR CH 50V 2700P	1	
C7651		ECEA1CKN100	E.CAPACITOR 16V 10U	1	NV-J30BI
C7653		ECQB1H392JH	P.CAPACITOR 50V 3900P	1	NV-J30BI
C7654		ECQB1H103JH	P.CAPACITOR 50V 0.01U	1	NV-J30BI
C7655,56		ECEA1HK010	E.CAPACITOR 50V 1U	2	NV-J30BI
C7657		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	NV-J30BI
C7658		ECQP1H562JZ	P.CAPACITOR 50V 5600P	1	NV-J30BI
C7659		ECQB1H272JH	P.CAPACITOR 50V 2700P	1	NV-J30BI
C7661		ECQV1H104JZ	P.CAPACITOR 50V 0.1U	1	
C7662		ECQV1H683JZ	P.CAPACITOR 50V 0.068U	1	
C7663		ECQV1H823JZ	P.CAPACITOR 50V 0.082U	1	
C7664		ECQB1H273JH	P.CAPACITOR 50V 0.027U	1	
C7665,66		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C7667		ECEA1HKA100	E.CAPACITOR 50V 10U	1	
C7670,71		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C7673		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	NV-J30BI
C7675		ECEA1HKN010	E.CAPACITOR 50V 1U	1	
C7676,77		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C7678		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C7679		ECEA1HK010	E.CAPACITOR 50V 1U	1	NV-J4BA
C7680		ECEA1HK010	E.CAPACITOR 50V 1U	1	NV-J30BI
C7681,82		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	NV-J30BI
			DIODES		
D301		MA4091M	DIODE	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
D710		MA3100L	DIODE	1	
D771		MA151WK	DIODE	1	
D772		MA165	DIODE	1	
D773		MA151K	DIODE	1	
D1001,02		MA165	DIODE	2	
D2003,04		MA165	DIODE	2	
D2007,08		MA165	DIODE	2	
D3001		MA165	DIODE	1	
D3009		MA165	DIODE	1	
D3101		MA165	DIODE	1	
D3102		MA29W-A	DIODE	1	
D3901,02		MA165	DIODE	2	
D4003		MA165	DIODE	1	
D6001		MA4051	DIODE	1	
D6002-04		MA165	DIODE	3	
D6005		ERA15-01	DIODE	1	
D6006		MA165	DIODE	1	
D6007		MA165	DIODE	1	NV-J4BA
D6008		MA723	DIODE	1	
D6009		MA4150L	DIODE	1	
D6023		MA165	DIODE	1	
D7401,02		MA723	DIODE	2	
D7601		MA151A	DIODE	1	
D7602		MA3082M	DIODE	1	
			DELAY		
DL803		EFDBR124A53T	DELAY	1	
			FUSE		
F6001		VSF0077	FUSE	1	
			FILTERS		
FL301		ELB4M022	FILTER	1	
FL302		VLF0499	FILTER	1	
FL303		VLF0727	FILTER	1	
FL801		ELB4W002	FILTER	1	
FL3101		VLF0413	FILTER	1	
			ICS		
IC301		VEFH03D	HIC	1	
IC303		MSM6965-3RS	IC	1	
IC701		M51366SP	IC	1	
IC801		VEFH04F	P.C.BOARD	1	
IC2001		MN6740VCTK	IC	1	
IC2101		BA6435S	IC	1	
IC2201		AN3814K	IC	1	
IC3101		BA7004	IC	1	
IC3901		LA7150	IC	1	NV-J30BI
IC4001		BA7766AS	IC	1	
IC6002		LM393PS	IC	1	NV-J4BA
IC6003		MN12821R	IC	1	
IC7651		AN5421	IC	1	NV-J30BI
IC7652		AN5043	IC	1	
IC7653		MN4066BS	IC	1	NV-J30BI
			COILS		
L301		VLQEL05F101K	COIL 100UH	1	
L302		VLQEL05F220K	COIL 22UH	1	
L303,04		VLQEL05F101K	COIL 100UH	2	
L306		VLQEL05F101K	COIL 100UH	1	
L307		VLQEL05F151K	COIL 150UH	1	
L308		VLQEL05F270K	COIL 27UH	1	
L309,10		VLQEL05F101K	COIL 100UH	2	
L311		VLQEL05F2R2K	COIL 2.2UH	1	
L701		ELESP680KA	COIL 68UH	1	
L713		VLQ0305J1R2	COIL 1.2UH	1	NV-J30BI
L713		VLQ0305J1R56	COIL 1.56UH	1	NV-J4BA
L714		VLQ0305J1R2	COIL 1.2UH	1	
L715		VLQ0213K330	COIL 33UH	1	NV-J4BA
L717,18		ELESP680KA	COIL 68UH	2	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
L719		ELESP150KA	COIL 15UH	1	NV-J30BI
L719		ELESP120KA	COIL 12UH	1	NV-J4BA
L720		ELESP680KA	COIL 68UH	1	NV-J30BI
L781		ELESP330KA	COIL 33UH	1	NV-J4BA
L805		VLQEL05F101K	COIL 100UH	1	
L806		VLQEL05F681K	COIL 680UH	1	
L808		VLQEL05F470K	COIL 47UH	1	
L809		VLQEL05F391K	COIL 390UH	1	
L810		VLQEL05F101K	COIL 100UH	1	
L811		VLQEL05F470K	COIL 47UH	1	
L812		VLQEL05F681K	COIL 680UH	1	
L822		VLQ0213K150T	COIL 15H	1	
L2002		VLP0074	COIL	1	
L2003		ELESP101KA	COIL 100UH	1	
L2101		ELESP102KA	COIL 1000UH	1	
L3001-03		ELESP101KA	COIL 100UH	3	
L3005		ELESP120KA	COIL 12UH	1	
L3006		ELESP6R8KA	COIL 6.8UH	1	
L3007		ELESP101KA	COIL 100UH	1	
L3008		ELESP3R3KA	COIL 3.3UH	1	
L3101		VLQEL05F101K	COIL 100UH	1	
L3901		VLQEL05F1R0K	COIL 1UH	1	
L3902		VLQEL05F2R7K	COIL 2.7UH	1	
L4001		VLQEL07F822J	COIL 8200UH	1	
L4002		ELESP471KA	COIL 470UH	1	
L6101		VLQEL05F101K	COIL 100UH	1	
L7401		ELESP1R0KA	COIL 1UH	1	
L7402		ELESP101KA	COIL 100UH	1	
L7404		ELESP1R0KA	COIL 1UH	1	
			CONNECTORS		
P001		VJS1237T	CONNECTOR (FEMALE)	1	
P006		VJS1902	CONNECTOR (FEMALE)	1	
P501		VJS1743T	CONNECTOR (FEMALE)	1	
P1001		VJS2571A013	CONNECTOR (FEMALE)	1	
P2001		VJP1932T	CONNECTOR (MALE)	1	
P2001		VJS1932T	CONNECTOR (FEMALE)	1	
P2201		VJP1237T	CONNECTOR (MALE) 10P	1	
P2201		VJS1237T	CONNECTOR (FEMALE)	1	
P3001		VJP1237T	CONNECTOR (MALE) 10P	1	
P3001		VJS1743T	CONNECTOR (FEMALE)	1	
P3902		VJS1469	CONNECTOR (FEMALE)	1	NV-J30BI
P4001		VJP2622	CONNECTOR	1	
P6001		VJS2571A012	CONNECTOR (FEMALE)	1	
P6002		VJS2571A004	CONNECTOR (FEMALE)	1	
P7401		VJS1662	CONNECTOR (FEMALE)	1	
P7402		VJS2571A015	CONNECTOR (FEMALE)	1	
			PACK PINS		
PK701		VJR0231	PACK PIN	1	
PK702,03		VJR0406	PACK PIN	2	
PK704		VJR0231	PACK PIN	1	
PK2201		VJR0452	PACK PIN	1	
PK2202		VJR0348	PACK PIN	1	
PK3901		VJR0348	PACK PIN	1	NV-J30BI
PK3902		VJR0523	PACK PIN	1	NV-J30BI
PK3903		VJR0348	PACK PIN	1	NV-J30BI
PK3904		VJR0416	PACK PIN	1	NV-J30BI
PK6101		VJR0277	PACK PIN	1	
			TRANSISTORS		
Q301		MSB709	TRANSISTOR	1	(Q,R,S)
Q302		MSC2295	TRANSISTOR	1	(B,C)
Q303		MSC2295	TRANSISTOR	1	(B,C)
Q304		MSD601	TRANSISTOR	1	(Q,R,S)
Q703		2SD601	TRANSISTOR	1	(S,T)
Q712		2SD638	TRANSISTOR	1	
Q713		2SD1328	TRANSISTOR CHIP	1	(S,T)
Q771		2SD601	TRANSISTOR	1	(S,T)
Q772		2SD601	TRANSISTOR CHIP	1	(S,T)NV-J30BI
Q804		MSB709	TRANSISTOR	1	(Q,R,S)
Q2001		MSD601	TRANSISTOR	1	(Q,R,S)

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
Q2002		2SD1996	TRANSISTOR	1	(S)
Q3001		MSC2295	TRANSISTOR	1	
Q3003		MSD601	TRANSISTOR	1	
Q3004		MSB709	TRANSISTOR	1	(Q,R,S)
Q3006		MSC2295	TRANSISTOR	1	
Q3007		MSB709	TRANSISTOR	1	(Q,R,S)
Q3101		MSD601	TRANSISTOR	1	
Q4001		MSD602	TRANSISTOR	1	(R)
Q6001		2SD893	TRANSISTOR	1	
Q6002,03		2SD1994	TRANSISTOR	2	(S)
Q6004		2SD1992	TRANSISTOR	1	
Q6006		2SB1321	TRANSISTOR	1	
Q6007		MSB710	TRANSISTOR	1	(R,S)
Q6008		2SD1273	TRANSISTOR	1	(P,O)
Q6010		2SD1991A	TRANSISTOR	1	
Q6011		MSB709	TRANSISTOR	1	
Q6101		2SC2206	TRANSISTOR	1	(B,C)
			COMBINATION PARTS		
			(TRANSISTOR & RESISTORS)		
QR701,02		UN2213	TRANSISTOR-RESISTOR	2	NV-J30BI
QR701,02		MRN1404	TRANSISTOR-RESISTOR	2	NV-J4BA
QR711,12		MRN1403	TRANSISTOR-RESISTOR	2	
QR713		UN2211	TRANSISTOR-RESISTOR	1	NV-J30BI
QR713		MRN1402	TRANSISTOR-RESISTOR	1	NV-J4BA
QR1001		MRN1404	TRANSISTOR-RESISTOR	1	
QR2002		DTC363EK	COMBI.TR-R	1	
QR2004		2SD1676	TRANSISTOR-RESISTOR	1	
QR2005		MRN1404	TRANSISTOR-RESISTOR	1	
QR3004		MRN2402	TRANSISTOR-RESISTOR	1	
QR3008		MRN1404	TRANSISTOR-RESISTOR	1	
QR4001		MRN1404	TRANSISTOR-RESISTOR	1	
QR6002		UN2119	TRANSISTOR-RESISTOR	1	
QR6003		MRN2404	TRANSISTOR-RESISTOR	1	
QR6004		MRN1404	TRANSISTOR-RESISTOR	1	
QR6007		MRN1403	TRANSISTOR-RESISTOR	1	
QR6011,12		MRN1403	TRANSISTOR-RESISTOR	2	
QR6013		MRN2404	TRANSISTOR-RESISTOR	1	
QR7401		MRN1402	TRANSISTOR-RESISTOR	1	
QR7601		MRN1404	TRANSISTOR-RESISTOR	1	
			RESISTORS		
R301		ERJ6GMYJ122	M.RESISTOR CH 1/10W 1.2K	1	
R302		ERJ6GMYJ391	M.RESISTOR CH 1/10W 390	1	
R303		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R304		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R305		ERJ6GMYJ824	M.RESISTOR CH 1/10W 820K	1	
R306		ERJ6GMYJ152	M.RESISTOR CH 1/10W 1.5K	1	
R307		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R308		ERJ6GMYJ123	M.RESISTOR CH 1/10W 12K	1	
R309		ERJ6GMYJ272	M.RESISTOR CH 1/10W 2.7K	1	
R310		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R311		ERJ6GMYJ272	M.RESISTOR CH 1/10W 2.7K	1	
R312		ERJ6GMYJ182	M.RESISTOR CH 1/10W 1.8K	1	
R317		ERJ6GMYJ471	M.RESISTOR CH 1/10W 470	1	
R320		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R325		ERJ6GMYJ151	M.RESISTOR CH 1/10W 150	1	
R326		ERJ6GMYJ822	M.RESISTOR CH 1/10W 8.2K	1	
R327		ERJ6GMYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R328		ERJ6GMYJ272	M.RESISTOR CH 1/10W 2.7K	1	
R329		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R330		ERJ6GMYJ183	M.RESISTOR CH 1/10W 18K	1	
R331		ERJ6GMYJ561	M.RESISTOR CH 1/10W 560	1	
R332		ERJ6GMYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R334,35		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	2	
R338		ERJ6GMYJ124	M.RESISTOR CH 1/10W 120K	1	
R339		ERJ6GMYJ101	M.RESISTOR CH 1/10W 100	1	
R716		ERJ6GEYJ272	M.RESISTOR CH 1/10W 2.7K	1	
R717		ERJ6GEYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R718		ERJ6GEYJ754	M.RESISTOR CH 1/10W 750K	1	
R719		ERJ6GEYJ682	M.RESISTOR CH 1/10W 6.8K	1	
R720		ERJ6GEYJ822	M.RESISTOR CH 1/10W 8.2K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R721		ERJ6GEYJ332	M.RESISTOR CH 1/10W 3.3K	1	NV-J30BI
R721		ERJ6GEYJ392	M.RESISTOR CH 1/10W 3.9K	1	NV-J4BA
R722		ERJ6GEYJ432	M.RESISTOR CH 1/10W 4.3K	1	
R723		ERJ6GEYJ183	M.RESISTOR CH 1/10W 18K	1	
R724		ERJ6GEYJ101	M.RESISTOR CH 1/10W 100	1	
R725		ERJ6GEYJ182	M.RESISTOR CH 1/10W 1.8K	1	
R726		ERJ6GEYJ472	M.RESISTOR CH 1/10W 4.7K	1	
R727		ERJ6GEYJ471	M.RESISTOR CH 1/10W 470	1	
R728		ERDS2TJ471	C.RESISTOR 1/4W 470	1	
R729,30		ERJ6GEYJ331	M.RESISTOR CH 1/10W 330	2	
R737		ERJ6GEYJ274	M.RESISTOR CH 1/10W 270K	1	
R738		ERJ6GEYJ334	M.RESISTOR CH 1/10W 330K	1	
R739		ERJ6GEYJ681	M.RESISTOR CH 1/10W 680	1	
R740		ERJ6GEYJ473	M.RESISTOR CH 1/10W 47K	1	
R741,42		ERJ6GEYJ272	M.RESISTOR CH 1/10W 2.7K	2	NV-J4BA
R743		ERJ6GEYJ470	M.RESISTOR CH 1/10W 47	1	
R744		ERJ6GEYJ821	M.RESISTOR CH 1/10W 820	1	
R745		ERJ6GEYJ331	M.RESISTOR CH 1/10W 330	1	
R746		ERDS2TJ181	C.RESISTOR 1/4W 180	1	
R747		ERJ6GEYJ471	M.RESISTOR CH 1/10W 470	1	NV-J30BI
R750		ERJ6GEYJ182	M.RESISTOR CH 1/10W 1.8K	1	
R751		ERJ6GEYJ562	M.RESISTOR CH 1/10W 5.6K	1	NV-J30BI
R756		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R757,58		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	2	
R763		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R764		ERJ6GEYJ822	M.RESISTOR CH 1/10W 8.2K	1	
R772		ERJ6GEYJ271	M.RESISTOR CH 1/10W 270	1	
R773		ERJ6GEYJ472	M.RESISTOR CH 1/10W 4.7K	1	
R774		ERJ6GEYJ562	M.RESISTOR CH 1/10W 5.6K	1	
R781		ERJ6GEYJ271	M.RESISTOR CH 1/10W 270	1	NV-J4BA
R782		ERJ6GEYJ471	M.RESISTOR CH 1/10W 470	1	NV-J4BA
R792		ERDS2TJ120	C.RESISTOR 1/4W 12	1	
R795		ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R815		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R816		ERJ6GMYJ822	M.RESISTOR CH 1/10W 8.2K	1	
R818		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R819		ERJ6GMYJ182	M.RESISTOR CH 1/10W 1.8K	1	
R820		ERJ6GMYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R821		ERJ6GMYJ273	M.RESISTOR CH 1/10W 27K	1	
R822		ERJ6GMYJ183	M.RESISTOR CH 1/10W 18K	1	
R824		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R825		ERJ6GMYJ182	M.RESISTOR CH 1/10W 1.8K	1	
R831		ERJ6GMYJ821	M.RESISTOR CH 1/10W 820	1	
R847		ERJ6GMYJ271	M.RESISTOR CH 1/10W 270	1	
R2001,02		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	2	
R2004,05		ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	2	
R2006		ERJ6GMY0R00	M.RESISTOR CH 1/10W 0	1	
R2007		ERJ6GMYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R2008		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R2009		ERJ6GMYJ393	M.RESISTOR CH 1/10W 39K	1	
R2010		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R2011		ERJ6GMYJ152	M.RESISTOR CH 1/10W 1.5K	1	
R2012		ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	1	
R2013		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R2014		ERJ6GMYJ824	M.RESISTOR CH 1/10W 820K	1	
R2015,16		ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	2	
R2017		ERJ6GMYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R2018		ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	1	
R2019		ERJ6GMYJ124	M.RESISTOR CH 1/10W 120K	1	
R2020		ERJ6GMYJ821	M.RESISTOR CH 1/10W 820	1	
R2021		ERJ6GMYJ562	M.RESISTOR CH 1/10W 5.6K	1	
R2022		ERJ6GMYJ272	M.RESISTOR CH 1/10W 2.7K	1	
R2023		ERJ6GMYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R2024		ERJ6GMYJ823	M.RESISTOR CH 1/10W 82K	1	
R2025		ERJ6GMYG562	M.RESISTOR CH 1/10W 5.6K	1	
R2026		ERJ6GMYG392	M.RESISTOR CH 1/10W 3.9K	1	
R2027		ERJ6GMYJ473	M.RESISTOR CH 1/10W 47K	1	
R2028		ERJ6GMYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R2029		ERJ6GMYJ473	M.RESISTOR CH 1/10W 47K	1	
R2030		ERJ6GMYJ123	M.RESISTOR CH 1/10W 12K	1	
R2031		ERJ6GMYJ392	M.RESISTOR CH 1/10W 3.9K	1	
R2032		ERDS2TJ471	C.RESISTOR 1/4W 470	1	
R2034		ERJ6GMYJ104	M.RESISTOR CH 1/10W 100K	1	
R2037		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R2038		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R2040		ERJ6GMYJ471	M.RESISTOR CH 1/10W 470	1	
R2051		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R2101-03		ERDS2TJ560	C.RESISTOR 1/4W 56	3	
R2104		ERX12SJR47	M.RESISTOR 1/2W 0.47	1	
R2105		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R2106		ERJ6GMYG561	M.RESISTOR CH 1/10W 560	1	
R2107		ERJ6GMYG562	M.RESISTOR CH 1/10W 5.6K	1	
R2108		ERJ6GMYG472	M.RESISTOR CH 1/10W 4.7K	1	
R2109		ERJ6GMYJ330	M.RESISTOR CH 1/10W 33	1	
R2201		ERDS2TJ122	C.RESISTOR 1/4W 1.2K	1	
R2202-04		ERDS2TJ150	C.RESISTOR 1/4W 15	3	
R2205		ERX12SJR68	M.RESISTOR 1/2W 0.68	1	
R2405		ERJ6GMYJ562	M.RESISTOR CH 1/10W 5.6K	1	
R3001		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R3002		ERJ6GMYJ682	M.RESISTOR CH 1/10W 6.8K	1	
R3003		ERJ6GMYJ472	M.RESISTOR CH 1/10W 4.7K	1	
R3019		ERDS2TJ471	C.RESISTOR 1/4W 470	1	
R3022,23		ERJ6GMYJ821	M.RESISTOR CH 1/10W 820	2	
R3028		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R3029		ERJ6GMYJ272	M.RESISTOR CH 1/10W 2.7K	1	
R3030		ERJ6GMYJ750	M.RESISTOR CH 1/10W 75	1	
R3034		ERJ6GMYJ333	M.RESISTOR CH 1/10W 33K	1	NV-J4BA
R3036		ERJ6GMYJ273	M.RESISTOR CH 1/10W 23K	1	NV-J4BA
R3037		ERJ6GMYJ750	M.RESISTOR CH 1/10W 75	1	NV-J4BA
R3040		ERJ6GMYJ750	M.RESISTOR CH 1/10W 75	1	NV-J4BA
R3042		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R3051,52		ERJ6GMYJ750	M.RESISTOR CH 1/10W 75	2	NV-J4BA
R3062		ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	1	
R3063		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R3071		ERJ6GMYJ222	M.RESISTOR CH 1/10W 2.2K	1	NV-J30BI
R3085		ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	1	
R3086		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R3087,88		ERJ6GMYJ104	M.RESISTOR CH 1/10W 100K	2	
R3094		ERJ6GMY0R00	M.RESISTOR CH 1/10W 0	1	
R3095		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R3096		ERDS2TJ102	C.RESISTOR 1/4W 1K	1	
R3101		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R3102		ERJ6GMYJ152	M.RESISTOR CH 1/10W 1.5K	1	
R3103		ERJ6GMYJ392	M.RESISTOR CH 1/10W 3.9K	1	
R3104		ERJ6GMYJ152	M.RESISTOR CH 1/10W 1.5K	1	
R3105		ERJ6GMYJ561	M.RESISTOR CH 1/10W 560	1	
R3901		ERJ6GEYJ750	M.RESISTOR CH 1/10W 75	1	NV-J30BI
R3902		ERDS2TJ750	C.RESISTOR 1/4W 75	1	NV-J30BI
R3903,04		ERJ6GEYJ242	M.RESISTOR CH 1/10W 2.4K	2	NV-J30BI
R3905		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	NV-J30BI
R3906		ERJ6GEYJ273	M.RESISTOR CH 1/10W 27K	1	NV-J30BI
R3908		ERJ6GEYJ333	M.RESISTOR CH 1/10W 33K	1	NV-J30BI
R3909		ERJ6GEYJ750	M.RESISTOR CH 1/10W 75	1	NV-J30BI
R3910		ERDS2TJ750	C.RESISTOR 1/4W 75	1	NV-J30BI
R3912		ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	1	NV-J30BI
R3913		ERJ6GEYJ123	M.RESISTOR CH 1/10W 12K	1	NV-J30BI
R3916		ERDS2T0	C.RESISTOR 1/4W 0	1	NV-J30BI
R4001		ERJ6GMYJ100	M.RESISTOR CH 1/10W 10	1	
R4002		ERJ6GMYJ183	M.RESISTOR CH 1/10W 18K	1	
R4003		ERJ6GMYG223	M.RESISTOR CH 1/10W 22K	1	
R4004		ERJ6GMYJ562	M.RESISTOR CH 1/10W 5.6K	1	
R4007		ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	1	
R4008		ERJ6GMYJ122	M.RESISTOR CH 1/10W 1.2K	1	
R4010		ERJ6GMYJ683	M.RESISTOR CH 1/10W 68K	1	
R4012		ERJ6GMYJ331	M.RESISTOR CH 1/10W 330	1	
R4013		ERJ6GMYJ394	M.RESISTOR CH 1/10W 390K	1	
R4014		ERJ6GMYG133	M.RESISTOR CH 1/10W 13K	1	
R4016		ERJ6GMYJ105	M.RESISTOR CH 1/10W 1M	1	
R4017		ERJ6GMYJ302	M.RESISTOR CH 1/10W 3K	1	
R4018		ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	1	
R4019		ERJ6GMYJ563	M.RESISTOR CH 1/10W 56K	1	
R4020		ERJ6GMYJ562	M.RESISTOR CH 1/10W 5.6K	1	
R4023		ERJ6GMYG473	M.RESISTOR CH 1/10W 47K	1	
R4024,25		ERJ6GMYG104	M.RESISTOR CH 1/10W 100K	2	
R4026		ERJ6GMYJ123	M.RESISTOR CH 1/10W 12K	1	
R4027		ERJ6GMYJ153	M.RESISTOR CH 1/10W 15K	1	
R4028		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R4031		ERJ6GMYG272	M.RESISTOR CH 1/10W 2.7K	1	
R4032		ERJ6GMYG622	M.RESISTOR CH 1/10W 6.2K	1	
R4035		ERJ6GMYJ822	M.RESISTOR CH 1/10W 8.2K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R4038		ERDS2TJ562	C.RESISTOR 1/4W 5.6K	1	
R4042		ERJ6GMYJ681	M.RESISTOR CH 1/10W 680	1	
R4044		ERJ6GMYG103	M.RESISTOR CH 1/10W 10K	1	
R4049		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R6001-03		ERJ6GMYJ101	M.RESISTOR CH 1/10W 100	3	
R6004,05		ERJ6GMYJ333	M.RESISTOR CH 1/10W 33K	2	
R6006		ERJ6GMYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R6007		ERJ6GMYJ122	M.RESISTOR CH 1/10W 1.2K	1	
R6008		ERJ6GMYJ561	M.RESISTOR CH 1/10W 560	1	
R6009		ERJ6GMYJ333	M.RESISTOR CH 1/10W 33K	1	
R6010		ERJ6GMYJ561	M.RESISTOR CH 1/10W 560	1	
R6011		ERJ6GMYJ333	M.RESISTOR CH 1/10W 33K	1	
R6012		ERJ6GMYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R6013		ERJ6GMYJ683	M.RESISTOR CH 1/10W 68K	1	
R6014		ERJ6GMYJ473	M.RESISTOR CH 1/10W 47K	1	
R6015		ERJ6GMYJ101	M.RESISTOR CH 1/10W 100	1	
R6017		ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	1	
R6018		ERJ6GMYJ131	M.RESISTOR CH 1/10W 130	1	
R6019		ERJ6GMYJ562	M.RESISTOR CH 1/10W 5.6K	1	
R6020		ERJ6GMYJ152	M.RESISTOR CH 1/10W 1.5K	1	
R6021		ERJ6GMYJ201	M.RESISTOR CH 1/10W 200	1	
R6022		ERG3SJ220	M.RESISTOR 3W 22	1	
R6023		ERJ6GMYJ471	M.RESISTOR CH 1/10W 470	1	
R6024		ERJ6GMYJ561	M.RESISTOR CH 1/10W 560	1	
R6025		ERJ6GMYJ391	M.RESISTOR CH 1/10W 390	1	
R6026		ERD2FCVG220	C.RESISTOR 2W 22	1	
R6028		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R6029		ERDS2TJ152	C.RESISTOR 1/4W 1.5K	1	
R6030		ERJ6GMYJ751	M.RESISTOR CH 1/10W 750	1	NV-J4BA
R6031		ERJ6GMYJ222	M.RESISTOR CH 1/10W 2.2K	1	NV-J4BA
R6032		ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	1	NV-J4BA
R6033		ERJ6GMYJ824	M.RESISTOR CH 1/10W 820K	1	NV-J4BA
R6034		ERJ6GMYJ105	M.RESISTOR CH 1/10W 1M	1	NV-J4BA
R6036		ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	1	NV-J4BA
R6039		ERJ6GMYJ473	M.RESISTOR CH 1/10W 47K	1	
R6040		ERJ6GMYJ562	M.RESISTOR CH 1/10W 5.6K	1	
R6041		ERJ6GMYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R6042,43		ERJ6GMYJ222	M.RESISTOR CH 1/10W 2.2K	2	
R6044,45		ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	2	
R6047		ERDS1TJ332	C.RESISTOR 1/2W 3.3K	1	
R6048		ERJ6GMYJ681	M.RESISTOR CH 1/10W 680	1	
R6049		ERJ6GMYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R6053		ERG2SJ471	M.RESISTOR 2W 470	1	
R6054		ERJ6GMYJ104	M.RESISTOR CH 1/10W 100K	1	
R6055		ERJ6GMYJ101	M.RESISTOR CH 1/10W 100	1	
R6056		ERJ6GMYJ473	M.RESISTOR CH 1/10W 47K	1	
R6057		ERJ6GMYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R6059		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R6060		ERJ6GMYJ104	M.RESISTOR CH 1/10W 100K	1	
R6062		ERJ6GMYJ392	M.RESISTOR CH 1/10W 3.9K	1	
R6101		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R6102		ERJ6GEYJ333	M.RESISTOR CH 1/10W 33K	1	
R6103,04		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	2	
R7401		ERDS2TJ103	C.RESISTOR 1/4W 10K	1	
R7402		ERJ6GMYJ181	M.RESISTOR CH 1/10W 180	1	
R7651		ERJ6GEYJ332	M.RESISTOR CH 1/10W 3.3K	1	NV-J30BI
R7654		ERJ6GEYJ562	M.RESISTOR CH 1/10W 5.6K	1	NV-J30BI
R7655		ERJ6GEYJ472	M.RESISTOR CH 1/10W 4.7K	1	NV-J30BI
R7656		ERJ6GEYJ151	M.RESISTOR CH 1/10W 150	1	NV-J30BI
R7657		ERJ6GEYJ104	M.RESISTOR CH 1/10W 100K	1	NV-J30BI
R7658		ERJ6GEYJ393	M.RESISTOR CH 1/10W 39K	1	NV-J30BI
R7659		ERJ6GEYJ822	M.RESISTOR CH 1/10W 8.2K	1	NV-J30BI
R7661		ERJ6GEYJ562	M.RESISTOR CH 1/10W 5.6K	1	NV-J30BI
R7662		ERJ6GEYJ393	M.RESISTOR CH 1/10W 39K	1	NV-J30BI
R7663		ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	1	NV-J30BI
R7664		ERJ6GEYJ332	M.RESISTOR CH 1/10W 3.3K	1	NV-J30BI
R7671,72		ERJ6GEYJ473	M.RESISTOR CH 1/10W 47K	2	
R7673		ERJ6GEYJ104	M.RESISTOR CH 1/10W 100K	1	
R7674		ERJ6GEYJ124	M.RESISTOR CH 1/10W 120K	1	
R7675		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R7676		ERG1SJ152	M.RESISTOR 1W 1.5K	1	
R7677		ERDS2TJ103	C.RESISTOR 1/4W 10K	1	
R7678		ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	1	
R7679		ERDS2TJ100	C.RESISTOR 1/4W 10	1	
R7680		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R7681,82		ERJ6GEYJ473	M.RESISTOR CH 1/10W 47K	2	NV-J30BI
R7683		ERJ6GEYJ563	M.RESISTOR CH 1/10W 56K	1	NV-J30BI
R7684		ERJ6GEYJ393	M.RESISTOR CH 1/10W 39K	1	NV-J30BI
R7691		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R7692		ERJ6GEYJ104	M.RESISTOR CH 1/10W 100K	1	NV-J30BI
R7694		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	NV-J30BI
R7695		ERJ6GEYJ562	M.RESISTOR CH 1/10W 5.6K	1	
R7696		ERJ6GEYJ473	M.RESISTOR CH 1/10W 47K	1	
			TRANSFORMERS		
T703		EIV5EC005A	TRANSFORMER	1	NV-J30BI
T703		EIV5EC013A	TRANSFORMER	1	NV-J4BA
T704		EIV5EC007A	TRANSFORMER	1	NV-J30BI
T704		EIV5EC006A	TRANSFORMER	1	NV-J4BA
T711		EIS5EC008A	TRANSFORMER	1	
T4001		EIQ7QF014Q	TRANSFORMER	1	
			V.RESISTORS		
VR302		EVN4YCA00B23	V.RESISTOR 2K	1	
VR701,02		EVNDRAA00B23	V.RESISTOR 2K	2	
VR741		EVNDRAA00B14	V.RESISTOR 10K	1	NV-J4BA
VR751		EVNDRAA00B53	V.RESISTOR 5K	1	
VR803		EVNDRAA00B14	V.RESISTOR 10K	1	
VR2001		EVNDRAA00B54	V.RESISTOR 50K	1	
VR2010		EVND1AA00B25	V.RESISTOR 200K	1	
VR3012		EVNDRAA00B52	V.RESISTOR 500	1	
VR4002		EVNDRAA00B25	V.RESISTOR 200K	1	
VR7660		EVM4LGA00B23	V.RESISTOR 2K	1	NV-J30BI
			CRYSTAL OSCILLATORS		
X301		VSX0225	CRYSTAL OSCILLATOR	1	
X710		EFCH39MGP1	CRYSTAL OSCILLATOR	1	NV-J4BA
X710		EFCH39MSP12	CRYSTAL OSCILLATOR	1	NV-J30BI
X711		EFCS6R0MW5	CRYSTAL OSCILLATOR	1	
X712		EFCS6R0MS5	CRYSTAL OSCILLATOR	1	
X801		VSX0162	CRYSTAL OSCILLATOR	1	
X3101		VSX0099	CRYSTAL OSCILLATOR	1	
X6101		VSX0383	CRYSTAL OSCILLATOR	1	
X7401		VSQ0565	CRYSTAL OSCILLATOR	1	
			MISCELLANEOUS		
		VMC0075	HEAT SINK FIX SPRING	1	
		VSC2734	HEAT SINK	1	
		VMP2631	FUSE FIX ANGLE	1	
		VSC1068	HEAT SINK	1	
		VMA6768	EARTH ANGLE	1	
		ENC17972B	RF CONVERTER	1	
		VEJ0797	ANT. TERMINAL PLATE	1	
		VMZ1352	HEAT SINK COVER	1	
		VJF0379	CLAMP	1	
		VJF0858	CLAMP	1	
		VMC0462	EARTH SPRING	1	[FOR SUB MAIN]
		ENV59835H3	TUNER	1	<!> [FOR TV DEMODU.]
					[SUPPLIED FROM M.B.V]
					NV-J30BI
		ENV79819H3	TUNER	1	<!> [FOR TV DEMODU.]
					NV-J4BA
		VSC2713	SHIELD (MAIN)	1	[FOR TV DEMODU.]
		VSC2712	SHIELD (TOP)	1	[FOR TV DEMODU.]
		VSC2714	SHIELD (BOTTOM)	1	[FOR TV DEMODU.]
		VEJ0778	REAR JACK	1	NV-J4BA
		VEJ0779	REAR JACK	1	[SUPPLIED FROM M.B.V]
					NV-J30BI
		VWJ14HW140MM	FLEXIBLE CABLE(14PIN)	1	(P7401-P7501)
		VWJ0374	FLEXIBLE CABLE(15PIN)	1	(P7402-P7502)

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
	■	VEP05137B	HEAD AMP C.B.A.		(NLA)
			CAPACITORS		
C501		ECEA0JK470	E.CAPACITOR 6.3V 47U	1	
C502		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C505		ECUM1H560JCN	C.CAPACITOR CH 50V 56P	1	
C507		ECEA1HK010	E.CAPACITOR 50V 1U	1	
C508		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C510,11		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C512		ECUM1H820JCN	C.CAPACITOR CH 50V 82P	1	
C513		ECEA1HK010	E.CAPACITOR 50V 1U	1	
C514		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C515		ECUM1H181JCN	C.CAPACITOR CH 50V 180P	1	
C516		ECUM1H330JCN	C.CAPACITOR CH 50V 33P	1	
C517		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C518		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C523		ECEA1HK010	E.CAPACITOR 50V 1U	1	
C524		ECUM1H330JCN	C.CAPACITOR CH 50V 33P	1	
C525		VCYD1C104MR	S.CAPACITOR 16V 0.1U	1	
C528		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C529		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C530		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C531		ECUM1H470JCN	C.CAPACITOR CH 50V 47P	1	
C532		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C533		ECUM1H470JCN	C.CAPACITOR CH 50V 47P	1	
C534		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C538		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C539		ECUM1H470JCN	C.CAPACITOR CH 50V 47P	1	
C540		ECEA1CK100	E.CAPACITOR 16V 10U	1	
C541		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C542		ECUM1H080DCN	C.CAPACITOR CH 50V 8P	1	
			ICS		
IC501		BA7274S	IC	1	
			COILS		
L501		VLQEL05F101K	COIL 100UH	1	
L503		VLQEL05F270K	COIL 27UH	1	
L504		VLQEL05F101K	COIL 100UH	1	
L505		VLQEL05F820K	COIL 82UH	1	
L506		VLQEL05F151K	COIL 150UH	1	
			CONNECTORS		
P002		VJS1449	CONNECTOR(FEMALE)	1	
P501		VJP1237T	CONNECTOR(MALE) 10P	1	
			TRANSISTORS		
Q501		2SB709	TRANSISTOR CHIP	1	(Q,R,S)
Q502		2SC2295	TRANSISTOR	1	
			RESISTORS		
R501		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R503		ERJ6GMYJ152	M.RESISTOR CH 1/10W 1.5K	1	
R504		ERJ6GMYJ391	M.RESISTOR CH 1/10W 390	1	
R507		ERJ6GMYJ561	M.RESISTOR CH 1/10W 560	1	
R508		ERJ6GMYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R509		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R510		ERJ6GMYJ331	M.RESISTOR CH 1/10W 330	1	
R512		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R513		ERJ6GMYJ330	M.RESISTOR CH 1/10W 33	1	
R518		ERJ6GMYJ330	M.RESISTOR CH 1/10W 33	1	
R519		ERJ6GMYJ471	M.RESISTOR CH 1/10W 470	1	
R523		ERJ6GMYJ821	M.RESISTOR CH 1/10W 820	1	
R524		ERJ6GMYJ100	M.RESISTOR CH 1/10W 10	1	
R525		ERJ6GMYJ222	M.RESISTOR CH 1/10W 2.2K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R526		ERJ6GMYJ100	M.RESISTOR CH 1/10W 10	1	
R527		ERJ6GMYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R528		ERJ6GMYJ821	M.RESISTOR CH 1/10W 820	1	
R532		ERJ6GMYJ100	M.RESISTOR CH 1/10W 10	1	
R533		ERJ6GMYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R534-36		ERJ6GMYJ561	M.RESISTOR CH 1/10W 560	3	
			V.RESISTORS		
VR501		EVND1AA00B23	V.RESISTOR 2K	1	
VR502		EVND1AA00B13	V.RESISTOR 1K	1	
			MISCELLANEOUS		
		VSC2353	SHIELD (TOP)	1	
		VSC2355	SHIELD (BOTTOM)	1	
		VSC2354	SHIELD (MAIN)	1	
	■	VEP07597G	TIMER C.B.A.		[SUPPLIED FROM M.B.V]
					(NLA)NV-J30BI
	■	VEP07597H	TIMER C.B.A.		(NLA)NV-J4BA
			CAPACITORS		
C6701		ECEA0JK470	E.CAPACITOR 6.3V 47U	1	
C6702		ECKF1H471KB	C.CAPACITOR 50V 470P	1	
C6703		ECEA1HK010	E.CAPACITOR 50V 1U	1	
C6704		ECEA1HK3R3	E.CAPACITOR 50V 3.3U	1	
C7501		ECRHA030E41	TRIMMER 3P	1	
C7502		ECUM1H080DCN	C.CAPACITOR CH 50V 8P	1	
C7503		ECUM1H330JCN	C.CAPACITOR CH 50V 33P	1	
C7504		ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	
C7505		ECEA0JK221	E.CAPACITOR 6.3V 220U	1	
C7506		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C7507		ECEA1HKR22	E.CAPACITOR 50V 0.22U	1	
C7508		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C7510		ECEA0JK470	E.CAPACITOR 6.3V 47U	1	
C7511		ECEA1HKA100	E.CAPACITOR 50V 10U	1	
C7512		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	NV-J30BI
C7513		ECUM1H560JCN	C.CAPACITOR CH 50V 56P	1	
C7525		ECUM1H821KBN	C.CAPACITOR CH 50V 820P	1	
C7551		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
			DIODES		
D6701		PN323B	PHOTO DIODE	1	
D7501		MA4068	DIODE	1	
D7502		MA165	DIODE	1	NV-J30BI
D7507		MA165	DIODE	1	
D7509		MA165	DIODE	1	NV-J4BA
D7510		MA165	DIODE	1	NV-J4BA
D7511		MA165	DIODE	1	NV-J30BI
D7513		MA165	DIODE	1	
D7516		MA165	DIODE	1	
D7530		MA165	DIODE	1	
D7532-35		MA165	DIODE	4	
D7537-41		MA165	DIODE	5	
D7556		LN38GCPL	DIODE	1	
			DISPLAY TUBE		
DP7501		VSL0164	DISPLAY TUBE	1	
			ICS		

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
IC7501		MN187125VHP	IC	1	
IC7502		MN12C261D	IC	1	
IC7503		MN1280L	IC	1	
IC7504		MN1280S	IC	1	(S)
IC7601		UPC1490HA	IC	1	
			COIL		
L7501		VLQEL05F221K	COIL 220UH	1	
			CONNECTORS		
P7501		VJS1492	CONNECTOR (FEMALE)	1	
P7502		VJS2651B015	CONNECTOR (FEMALE)	1	
P7505		VJS2652	CONNECTOR	1	
			COMBINATION PARTS		
			(TRANSISTOR & RESISTORS)		
QR7501		MRN1404	TRANSISTOR-RESISTOR	1	
QR7525		UN2216	TRANSISTOR	1	
			RESISTORS		
R6701		ERDS2TJ154	C.RESISTOR 1/4W 150K	1	
R6702		ERDS2TJ8R2	C.RESISTOR 1/4W 8.2	1	
R6703		ERDS2TJ103	C.RESISTOR 1/4W 10K	1	
R7501		ERJ6GMYJ122	M.RESISTOR CH 1/10W 1.2K	1	
R7502		ERJ6GMYJ224	M.RESISTOR CH 1/10W 220K	1	
R7503		ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	1	
R7504		ERJ6GMYJ101	M.RESISTOR CH 1/10W 100	1	
R7505		ERJ6GMYJ104	M.RESISTOR CH 1/10W 100K	1	
R7508-10		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	3	
R7511		ERJ6GMYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R7512		ERJ6GMYJ473	M.RESISTOR CH 1/10W 47K	1	
R7523-27		ERJ6GMYJ182	M.RESISTOR CH 1/10W 1.8K	5	
R7530-32		ERJ6GMYJ332	M.RESISTOR CH 1/10W 3.3K	3	
R7533		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R7534		ERJ6GMYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R7535		ERDS1TJ5R1	C.RESISTOR 1/2W 5.1	1	
R7538		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R7546		ERJ6GMYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R7549		ERJ6GMYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R7550		ERJ6GMYJ181	M.RESISTOR CH 1/10W 180	1	
R7552-54		ERJ6GMYJ182	M.RESISTOR CH 1/10W 1.8K	3	
R7555		ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	1	
R7563		ERJ6GMYJ101	M.RESISTOR CH 1/10W 100	1	
			SWITCHES		
SW7504		EVQ11407K	SWITCH	1	
SW7517		EVQ11407K	SWITCH	1	
SW7527		EVQ11407K	SWITCH	1	
SW7532-46		EVQ11407K	SWITCH	15	
			CRYSTAL OSCILLATORS		
X7501		VSX0140	CRYSTAL OSCILLATOR	1	
X7502		VSX0094	CRYSTAL OSCILLATOR	1	
			MISCELLANEOUS		
		VJF0843	LED HOLDER	1	
		VJF0706	FIP HOLDER	1	
		VSC2059	SHIELD (MAIN)	1	(FOR IR RECEIVER)
		VSC1928	SHIELD (BOTTOM)	1	(FOR IR RECEIVER)

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
	■	VEP06680A	OPERATION C.B.A.		(NLA)
			DIODE		
D6203		LN28RCPPU	DIODE	1	
			CONNECTOR		
P6201		VJP2652	CONNECTOR	1	
			RESISTORS		
R6201		ERJ6GMYJ181	M.RESISTOR CH 1/10W 180	1	
R6202		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
			SWITCHES		
SW6201-07		EVQ11407K	SWITCH	7	
SW6211		VSS0187	SWITCH	1	
SW6213		VSS0236	SWITCH	1	
			V.RESISTOR		
VR3004		EWAKFKXB3B24	V.RESISTOR 20K	1	
			MISCELLANEOUS		
		VGU4537	SWITCH KNOB	2	
	■	VEP01420AA	POWER C.B.A.		<!>(NLA)
			CAPACITORS		
C1101		ECQU2A563MNB	P.CAPACITOR 100V 0.056U	1	
C1102		ECQU2A333MNB	P.CAPACITOR 100V 0.033U	1	
C1108		ECOS2GU820	C.CAPACITOR 400V 82P	1	
C1109		ECEA2GG010	E.CAPACITOR 400V 1U	1	
C1110		ECQE6473JZ	P.CAPACITOR 630V 0.047U	1	
C1111		ECKD3D331KBN	C.CAPACITOR 2KV 330P	1	
C1113		ECQB1H472KZ	P.CAPACITOR 50V 4700P	1	
C1114		ECA1CXLV470	E.CAPACITOR 25V 47U	1	
C1115		ECQB1H472KZ	P.CAPACITOR 50V 4700P	1	
C1117		ECQP1101JZ	P.CAPACITOR 100V 100P	1	
C1118		ECEA1HGE101	E.CAPACITOR 50V 100U	1	
C1119,20		ECEA1DFZ681	E.CAPACITOR 20V 680U	2	
C1121		ECEA1HGE100	E.CAPACITOR 50V 10U	1	
C1122		ECEA1AFZ331	E.CAPACITOR 10V 330U	1	
C1123		ECEA1HGE100	E.CAPACITOR 50V 10U	1	
C1124,25		ECEA1AGE101	E.CAPACITOR 10V 100U	2	
C1126		ECEA1CGE470	E.CAPACITOR 16V 47U	1	
C1127		ECEA0JFZ471	E.CAPACITOR 6.3V 470U	1	
C1128-31		ECKF1H103ZFB	C.CAPACITOR 50V 0.01U	4	
C1132		ECEA1CGE100	E.CAPACITOR 16V 10U	1	
C1134,35		ECKF1H103ZFB	C.CAPACITOR 50V 0.01U	2	
C1136		ECQV1H105JZ	P.CAPACITOR 50V 1U	1	
C1137		ECQV1H223JS	P.CAPACITOR 50V 0.022U	1	
C1142		VCC0019	C.CAPACITOR 330P	1	
C1145		VCC0019	C.CAPACITOR 330P	1	
C1147		VCC0022	C.CAPACITOR 1000P	1	
			DIODES		
D1101		SNR-300K4	SURGE ABSORBER	1	
D1102		S1WBA60	DIODE	1	
D1103		VSD0002	DIODE	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
D1104		AP01C	DIODE	1	
D1105		MA178	DIODE	1	
D1106		MA4039	DIODE	1	
D1107		MA165	DIODE	1	
D1108		ERA22-02	DIODE	1	
D1109		RL22P	DIODE	1	
D1110		MA185	DIODE	1	
D1111		11EQS04	DIODE	1	
D1112		ERB83-004L17	DIODE	1	
D1113		MA2200B	DIODE	1	
D1114		MA4130L	DIODE	1	
			ICS		
IC1101		STRD1816	IC	1	
IC1102		STK5392	IC	1	
			COILS		
L1102		ELF18D290A	FILTER	1	
L1103		VLQ0410	COIL	1	
L1108,09		VLP0085	FILTER	2	
			CONNECTORS		
P1101		VJS2651B013W	CONNECTOR (FEMALE)	1	
P1102		VJS2625	CONNECTOR (FEMALE)	1	
			TRANSISTOR		
Q1102		2SD1330	TRANSISTOR	1	
			RESISTORS		
R1101		ERC12AGM334	S.RESISTOR 1/2W 330K	1	
R1102,03		ERDS1TJ823	C.RESISTOR 1/2W 82K	2	
R1104		ERDS2TJ562	C.RESISTOR 1/4W 5.6K	1	
R1106		ERG3ANJ683	M.RESISTOR 3W 68K	1	
R1108		ERD25VJ182	C.RESISTOR 1/4W 1.8K	1	
R1110		ERG2SJ330	M.RESISTOR 2W 33	1	
R1111		ERG2SJ181	M.RESISTOR 2W 180	1	
R1113		ERG1SJ182	M.RESISTOR 1W 1.8K	1	
R1114		ERDS2TJ103	C.RESISTOR 1/4W 10K	1	
R1118		ERDS2TJ1R0	C.RESISTOR 1/4W 1.0	1	
R1123,24		ERDS2TJ153	C.RESISTOR 1/4W 15K	2	
R1125		ERW1PK2R2	WIRE WOUND 2W 2.2	1	
			TRANSFORMER		
T1101		VLT0571	TRANSFORMER	1	
			MISCELLANEOUS		
		VJF0318	FUSE HOLDER	2	
		VMZ1183	CAPACITOR COVER	1	
		VMZ0913	CAPACITOR COVER	1	
	■	VEP66125D	REMOTE CONTROL UNIT C.B.A.		(NLA)
			CAPACITORS		
C6801		ECEA1AKA470	E.CAPACITOR 10V 47U	1	
C6802		ECUM1E104ZFM	C.CAPACITOR CH 25V 0.1U	1	
C6803		ECEV1CAN4R7R	E.CAPACITOR 16V 4.7U	1	
C6804		ECEA1HK010	E.CAPACITOR 50V 1U	1	
C6808,09		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C6810		ECUM1E104ZFM	C.CAPACITOR CH 25V 0.1U	1	
C6811		ECUM1H222KBN	C.CAPACITOR CH 50V 2200P	1	
C6812		ECUM1E154ZFM	C.CAPACITOR CH 25V 0.15U	1	
			DIODES		
D6801		SE303ACYTF	DIODE	1	
D6803-12		MA221	DIODE	10	
D6817,18		MA221	DIODE	2	
			ICS		
IC6801		MN158455VSSD	IC	1	
IC6802		AN8356S	IC	1	
			COIL		
L6801		ELT3K017B	COIL	1	
			TRANSISTORS		
Q6801		2SD1328	TRANSISTOR CHIP	1	(R,S)
Q6802		2SB709	TRANSISTOR CHIP	1	(Q,R,S)
Q6803		2SD601	TRANSISTOR CHIP	1	(Q,R,S)
			COMBINATION PARTS		
			(TRANSISTOR & RESISTORS)		
QR6803		DTC144TK	TRANSISTOR-RESISTOR	1	
			RESISTORS		
R6802,03		ERJ6GMYJ474	M.RESISTOR CH 1/10W 470K	2	
R6804		ERJ6GMYJ394	M.RESISTOR CH 1/10W 390K	1	
R6805		ERJ6GMYJ153	M.RESISTOR CH 1/10W 15K	1	
R6806		ERJ6GMYJ561	M.RESISTOR CH 1/10W 560	1	
R6807		ERJ8GCYJ1R2	M.RESISTOR CH 1/8W 1.2	1	
R6808		ERJ6GMYJ824	M.RESISTOR CH1/10W 820K	1	
R6810		ERJ6GMYJ184	M.RESISTOR CH 1/10W 180K	1	
R6812		ERJ6GMYJ273	M.RESISTOR CH 1/10W 27K	1	
R6813		ERJ6GMYJ6R8	M.RESISTOR CH1/10W 6.8	1	
R6814,15		ERJ6GMYJ473	M.RESISTOR CH 1/10W 47K	2	
R6816		ERJ6GMYJ334	M.RESISTOR CH 1/10W 330K	1	
R6817		ERJ6GMYJ331	M.RESISTOR CH 1/10W 330	1	
			SENSOR		
SN6801		VSQ0567	SENSOR	1	
			V.RESISTOR		
VR6801		EVNDXAA00B34	V.RESISTOR 30K	1	
			CRYSTAL OSCILLATORS		
X6801		EF0GC3524A4	CRYSTAL OSCILLATOR	1	
X6802		EFBAL30D401K	CRYSTAL OSCILLATOR	1	
			MISCELLANEOUS		
		VGQ1406	TERMINAL BASE	1	
		VJR0401	TERMINAL ANGLE	2	
	■	VXA3820	MECHANISM CONNECTION C.B.A.		(NLA)
			IC		
IC1501		ON2170	IC	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
			RESISTORS		
R1501,02		ERJ8GCYJ223	CHIP 1/8W 22K	2	
			CONNECTORS		
P1504		VJS2342W	CONNECTOR 13P	1	
P1505		VJP1242T	CONNECTOR 2P	1	
			MISCELLANEOUS		
		VMA7844	REINFORCEMENT PLATE(F)	1	
		VMA7845	REINFORCEMENT PLATE(R)	1	
		VMZ1366	PROTECTION SHEET	1	
	■	VEK3578	SUPPLY PHOTO Tr. C.B.A.		(NLA)
			CAPACITOR		
C1501		ECKF1H102KB	C.CAPACITOR 50V 1000P	1	
			TRANSISTOR		
Q1501		PN150NVS	TRANSISTOR	1	
			MISCELLANEOUS		
		VMD0645	PHOTO Tr. HOLDER	1	
			TAKE-UP PHOTO Tr. C.B.A.		
C1502		ECKF1H102KB	C.CAPACITOR 50V 1000P	1	
P1503		VJS2165W	CONNECTOR 6P	1	
Q1502		PN150NVS	TRANSISTOR	1	
R1503		ERDS2TJ222	C.RESISTOR 1/4W 2.2K	1	
			MISCELLANEOUS		
		VMD0645	PHOTO Tr. HOLDER	1	